



## Conference Proceedings

## 55th Annual General and Scientific Conference of the Paediatric Association of Nigeria (PANCONF), 17<sup>th</sup> to 19<sup>th</sup> January 2024

## ORAL PRESENTATIONS

### ADOLESCENT PAEDIATRICS/COMMUNITY PAEDIATRICS

## PAN-LOS-041

#### Clinical Profiles of Adolescents Admitted for Intensive Care at the University College Hospital, Ibadan

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**Introduction:** The adolescent years are considered to be the healthiest period of life. Despite this, adolescents are at risk of critical illnesses and injuries requiring intensive care. The optimal setting for adolescent critical care is still being debated: Adult or Paediatric Intensive Care Unit (PICU). In Nigeria, PICU services are limited, thus, critically ill adolescents are managed in adult ICU which is manned by adult intensivists with input from paediatricians. This study was conducted prior to the recent establishment of PICU services in Ibadan.

**Aim:** To outline the clinical profiles and outcomes of adolescent patients admitted into the adult ICU.

**Methods:** This was a retrospective study carried out on adolescents admitted over a five-year period (2018 to 2022).

**Results:** The adolescent population comprised 113 (38.6%) of the total number of children and adolescents admitted. The male and female distribution was 65.5% and 34.5% respectively. The mean age was 14.3±2.8 years. The commonest indication for admission was post-surgical excision of intracranial tumours (22.1%). Meningitis with raised intracranial pressure accounted for 17.7% while haemoglobinopathy with complications (sepsis, acute chest syndrome, shock) constituted 10.6%. The overall mortality rate was 36.3%. while a third of the

adolescent population required ventilation. The mortality rate among ventilated patients was 44.1%. Mortality was significantly higher in ventilated than non-ventilated patients ( $p = 0.006$ ).

**Conclusion:** The provision of critical care to the adolescent population is important especially amongst those who require ventilatory support as they are at high risk of mortality.

## PAN-LOS-106

#### Child Sexual Abuse: A Comparative Analysis Between “on” and “off” the Street Children in Port Harcourt Metropolis

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**Introduction:** The problem of street children is a global, social and environmental phenomenon. The United Nations Children Emergency Fund (UNICEF) identified the two groups of street children as: (1) ‘on-the-street children,’ who work on the streets but have a home to go to at night, and (2) ‘of-the-street children. Child sexual abuse (CSA) is involvement of a child in sexual activity that is poorly understood and for which the child is unable to give an informed consent. Child labour, of which street children are a part, has been linked to sexual abuse among children.

**Aim:** To compare the prevalence of sexual abuse among children on-the-street and children of-the-street and determine the risk factors for sexual abuse among street children.

**Methods:** Using multistage sampling technique, street children aged 8 to 18 years were studied in a cross-sectional survey from July 2021 to September 2021. Data was collected using a semi-structured interviewer administered questionnaires.

**Results:** Two hundred and eighty-seven children comprising 155 (54.0%) children on-the-street and

132 (46.0%) children of-the-street were studied. The overall prevalence of CSA among street children was 49.8%. The prevalence of CSA was significantly higher among children of-the-street (94; 71.2%) compared to children on-the-street (50; 34.2%). Both groups of street children were exposed to penetrative and non-penetrative patterns of CSA. Non-penetrative pattern of sexual abuse was more frequent among children on-the-street while penetrative sexual acts were more prevalent among children of-the-street (71; 58.8%). Social-demographic factors found to be associated with sexual abuse among street children included age <15 years (86; 96.4%), monogamous family setting (89; 56.3%), some form of education (131; 52.2%) and longer duration of working on the street (100; 44.4%) as they were all statistically significant.

**Conclusion:** Both groups of street children in Port Harcourt metropolis were exposed to child sexual abuse but the menace is worse among children of-the-street. Public enlightenment on the risks of sexual abuse among street children should be done via mass media campaigns.

#### **PAN-LOS-152**

##### **Social and Mental Health of Adolescent Clients in a Tertiary Health Centre in Abakaliki, Southeast Nigeria.**

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**Introduction:** Adolescence is a unique period in the life of a child as they transit to adulthood. Puberty brings on many biological, mental, and social changes.

**Aim:** To assess the social and mental health of adolescents seen at our hospital.

**Methods:** This was a study of all adolescents seen at the Paediatrics department, AEFUTHA for routine outpatient care. The prevalence and possible risk factors of social and mental health issues were assessed using the Paediatrics symptoms checklist.

**Results:** A total of 257 adolescents were seen in the 2-year period, with a male-to-female ratio of 1:2. Anxiety, depression, sleep disorders and eating disorders (disorders of internalization) were recorded among girls with a prevalence ranging between 6 and 15%. On the other hand, disruptive disorders such as disorders of social behaviour were more common among boys with a prevalence of 9.2%. The

prevalence of attempts at self-injurious behaviours was 12 % in girls and 5% in boys. Substance use was common among these adolescents (52%) and those who used illegal substances were more at risk of mental disorders.

**Conclusion:** Attention should be paid to mental health assessments of adolescents during routine hospital visits. Special outpatient clinics for adolescents can help them avail themselves of existing preventive and therapeutic measures since early diagnosis and prompt treatment could mean better development into adulthood.

#### **PAN-LOS-217**

##### **Peer Physical Violence Among Adolescents in a Sub-National Region of Nigeria**

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**Introduction:** Globally, there have been calls for concerted public health efforts through research to reduce violence among adolescents. This is achievable by identifying individual and social conditions that predispose adolescents to violent behaviour.

**Aim:** To assess the prevalence and risk factors of peer physical violence among adolescents attending secondary schools in a state in south-east, Nigeria.

**Methods:** A cross-sectional study was conducted across twelve schools using the Global School-based Students Health Survey Questionnaire. A multi-staged sampling method was used in recruiting participants.

**Results:** Out of the 1296 adolescents recruited, 42.1% were males. The prevalence of peer physical violence was 43.1%. At the multivariate level, predictors of peer physical violence in all the participants included age ( $p < 0.001$ ), bullying ( $p < 0.001$ ), gambling ( $p = 0.002$ ), having had serious injury ( $p = 0.001$ ) and weapon carrying ( $p = 0.002$ ). Being religious was protective against peer physical violence ( $p = 0.010$ ).

**Conclusion:** There is high prevalence of peer physical violence in the study population. The risk factors were young adolescence age <14 years, bullying, gambling, weapon-carrying and having had a serious injury. Stricter legislated regulations on adolescent gambling are desired. There should also be enforced compliance and stricter school policies against bullying and weapon-carrying.

**PAN-LOS-245**

**Enhancing Professional Interdisciplinary Child Protection Responses (EPIC-PR)**

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**Introduction:** The need for Child Protection Education and Training with Health Care Practitioners has been identified throughout several International Regions. Despite the obvious problem, there is no mandatory child protection training or policy for the identification and referrals in Enugu State.

**Aim:** To explore and understand current practices and policies for child welfare and mistreatment amongst healthcare workers interfacing with children in Parklane Hospital, Enugu, Nigeria. It included co-designing and producing a collaborative educational programme and policy for healthcare workers in the hospital to develop their knowledge.

**Methods:** The proposal pursues support to identify a collective interdisciplinary project for better child safeguarding. The pre-intervention data was collected through Rapid Realistic Review within Parkland Hospital, Enugu, to identify the scope of safeguarding responses and compare it with international data. Following the information, the view was to develop and implement an educational program and policy aimed at healthcare workers around the recognition of Child Protection concerns in Parklane Hospital.

Phase 1: Visit of Irish Team to Enugu (June 2023): The Irish EPIC-PR trip to Enugu was to better understand the current practices and procedures in place and to begin to develop an interagency network to promote the project. The EPIC-PR team met with several agencies and organisations that respond to child protection issues in the community across the health, social, justice and legal sectors including Parklane Hospital Management Team, the Ministry of Gender Affairs and Social Development, Enugu State Sexual Assault Referrals Team, Child Advocacy Network, the National Agency for the Prohibition of Trafficking in Persons and the Enugu Justice Department amongst others.

Phase 2: Visit of Enugu Team to Ireland (October 2023): The Enugu team were in Ireland to better understand the scope and complexity of child protection management in Dublin Ireland. The team visited Children's Health Ireland, Tusla Child and Family Agency and the Garda (Irish Police).

Phase 3: Co-design, policy and training are yet to commence.

Details of the Intervention: The focus is to employ a Child Protection Education and Policy Programme within Parklane Hospital, Enugu State. This will be in collaboration with the departments of Medical Social Work and Paediatrics in the hospital. This will educate healthcare professionals to identify and treat Child Protection concerns such as, non-accidental injuries in children, child sexual exploitation (physical/sexual abuse), emotional abuse (at a server level) and neglect, under the domains of child abuse within international policy and legislation.

The policy will amongst other things, create a child safeguarding working group within the hospital, mandate training and re-training as well create a pathway for the referral of at-risk children within the legal and legislative frameworks currently existing within the State. Rationale for the Project Children's Health Ireland already has networks with Parklane Hospital, Enugu and had identified the need for Child Protection research, education and policy making. Within International Policy and Legislation there is a forum for reporting abuse however, within Nigeria the Children's Rights Act (2003), was passed at the Federal Level, but it will only be effective if the State adheres to the bill. In Enugu State, clear data is lacking around the implementation of the act. Child abuse literature is limited within Enugu and a coherent state policy on the management of abuse is lacking. Non-governmental organisations (NGOs) have arisen to fill this void. However, it is hoped that this study will lead to more discussions around the creation of effective child safeguarding structures within the state. From discussions with health care professionals within Enugu, the need for education and training is paramount. Not only is training crucial for health care professional within Nigerian hospitals, a policy for them to follow is equally important.

**PAN-LOS-250**

**Pattern of Psychoactive Substance Use Among Adolescents in Makurdi, Benue State, North-Central Nigeria**

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**Introduction:** Psychoactive substances use (PSU) in adolescence is on the increase globally and in Nigeria. These substances impact negatively on adolescent health and social outcomes. Assessing the characteristics of adolescent PSU could provide valuable information for strengthening health initiatives against adolescent PSU.

**Aim:** To assess the characteristics of adolescent PSU in Makurdi.

**Methods:** This was a cross-sectional study of 384 adolescents (Subjects) and five secondary schools, selected via multistage sampling, in Makurdi, Nigeria in September 2022. An interviewer administered questionnaire was used to obtain socio-demographic information about each subject. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) tool was used to assess the subjects for PSU.

**Results:** Out of the 384 subjects, 220 (57.3%) and 111(28.9%) were lifetime and current psychoactive substance users respectively. Alcohol was the commonest psychoactive substance used by the subjects (168; 43.8%) followed by codeine cough syrup and *Valium*<sup>®</sup>/sleeping pills in 42 (10.9%) and 33 (8.6%) subjects respectively. The male sex, late adolescence, being in senior secondary school classes and in a private school were all significantly associated with adolescent PSU ( $p<0.05$ ).

**Conclusion:** Majority of the adolescents surveyed had used a psychoactive substance with alcohol being the commonest substance. There is a need to strengthen the development and implementation of policies that protect the adolescents in schools from exposure to, and the use of, psychoactive substances.

## CARDIOLOGY

### PAN-LOS-004

#### **Audit of Neonatal Cardiac Facilities and Services in North-Central Nigeria**

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**Introduction:** Some congenital heart diseases are critical, requiring diagnosis and intervention in early neonatal life. A formal documentation of preparedness in terms of facilities and services for neonatal cardiac lesions is lacking in North-Central Nigeria.

**Aim:** To evaluate and compare neonatal cardiac services in public and private Level IIIa newborn care

centres in North-central Nigeria with respect to human, physical and financial resources.

**Methods:** In this cross-sectional study conducted in July 2023, data were collected using electronic questionnaires from all public tertiary hospitals and private specialist facilities rendering Level IIIa newborn services in North-Central.

**Results:** Twenty centres participated in this study: 11 public and 9 private centres. Neonatal echocardiography and cardiac surgical services were readily accessible in 81.8% vs 44.4%, and in 36.4% vs 11.1% in public vs private facilities respectively. Pulse oximeters with appropriate neonatal probes and functional multi-parameter monitors were available and in use in 90.0% vs 88.9% and 54.5% vs 77.8% of public and private facilities respectively. Out-of-pocket expenditure accounted for 57% of funding for neonatal cardiac services, while health insurance and donors formed 29% and 14% respectively. Regardless of the source of funding, none was reported as adequate.

**Conclusion:** North-central Nigeria is currently ill prepared for neonatal cardiac services. Neither the public nor private sector was consistently superior in terms of adequacy of human and physical resources. Neonatal cardiac care financing is a significant constraint for the end users.

### PAN-LOS-141

#### **Bleeding eyes, Blue Skin in an Adolescent – An Usual Presentation of Critical Pulmonary Stenosis: A Case Report**

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**Introduction:** Pulmonary stenosis refers to a dynamic or fixed anatomic obstruction to the flow from the right ventricle to the pulmonary arterial vasculature. This obstruction, depending on the severity, is known to cause varying degrees of cyanosis due to poor oxygenation of the systemic venous return. Critical pulmonary stenosis is a term used to describe severe narrowing of the pulmonary vasculature that requires urgent treatment soon after birth to forestall adverse events. This case is presented because of the unusual presentation of critical pulmonary in adolescence and the uniqueness of the symptom of bleeding from the eye at presentation.

**Case Summary:** A twelve-year old male adolescent presented to our facility on account of easy fatigability of eight years duration, recurrent right-sided abdominal pain of three months duration and bleeding from the right eye eight hours prior to presentation. This was the first hospital admission in the child's life. Significantly, he had haematemesis at the onset of symptoms which had resolved at the time of presentation. Examination findings included sub-conjunctival haemorrhage, cyanosis with oxygen saturation of 56-64% at room air, Grade 3 finger clubbing and tender hepatomegaly. There were polycythaemia, moderate thrombocytopenia and deranged clotting profile. Echocardiography showed severe pulmonary stenosis, patent foramen ovale and tiny patent ductus arteriosus. Electrocardiographic features were suggestive of myocardial ischaemia. He had partial exchange transfusion and received medications to reduce preload, increase cardiac contractility and reduce myocardial ischaemic tendency. The boy was counselled on the need to have urgent pulmonary valvuloplasty, but this plan was hindered by severe financial constraints. He made some clinical improvements with resolution of symptoms but there was no significant improvement with easy fatigability. He was discharged after forty days of admission with a medical report to source for funds for urgent valvuloplasty.

**Conclusion:** Critical pulmonary stenosis is a cardiac emergency that should be addressed in the newborn period and can be structurally corrected in the cardiac catheterization laboratory. Long standing pulmonary obstruction can present in diverse ways as shown in the case presented.

#### PAN-LOS-154

##### **Prevalence and risk Factors for Hypertension Among Children in the Paediatric Out-patient Clinic of a Tertiary Hospital in Port Harcourt, Nigeria**

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**Introduction:** The prevalence of hypertension in children has increased globally with its possible multisystemic complications. Identifying the risk factors of hypertension in any population would aid in formulating efficient control measures to reduce its prevalence.

**Aim:** To determine the prevalence and associated risk factors of elevated blood pressure levels and hypertension among children.

**Methods:** This was a prospective, cross-sectional study of children who attended the Paediatric Out-patient Clinic over four months. These children were assessed for biodata, family and social history, dietary history, and blood pressure (BP).

**Results:** The mean systolic and diastolic blood pressures among the study population of 500 children, aged between 3 and 18 years, were 102.6 ( $\pm$  10.1) mmHg and 60.0 ( $\pm$ 9.0) mmHg. BP levels in higher-than-normal cut-off ranges were recorded in 76 (15.2%) children. A hypertensive BP range was observed in 44 (8.8%), while 32 (6.4%) were within the prehypertensive range. Elevated BP was significantly higher among children with a family history of hypertension (OR = 2.07, 95% CI: 1.01, 4.26,  $p$  = 0.04), children who skip breakfast regularly (OR = 5.9, 95%: 1.74, 20.1,  $p$  = 0.01), and obese or overweight children (OR = 2.79, 95% CI: 1.43, 5.42,  $p$  = 0.002).

**Conclusions:** Obesity, skipping breakfast, and a family history of hypertension were the identified risk factors for elevated blood pressure among children. Early screening and lifestyle modifications are recommended in the management of hypertension in children.

#### **PAN-LOS-226: Prevalence of High Blood Pressure Among Children Aged 6-15 years of Hypertensive Parents in Calabar, Nigeria**

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**Background:** High blood pressure (BP) is not only detectable in children and adolescents, but the prevalence is increasing. Surprisingly, most physicians do not measure the BP of children. A positive family history of parental hypertension is a known contributory factor to raise BP.

**Aim:** To determine the prevalence of high blood pressure among children of hypertensive parents.

**Methods:** This was a comparative study involving children aged 6-15 years of hypertensive parents diagnosed for more than 12 months who attended the hypertension clinic of the University of Calabar Teaching Hospital (UCTH) and children of similar age of health workers in UCTH who were normotensive.

Biodata, blood pressure, anthropometric indices were measured and the body mass index (BMI) and waist – hip-ratio (WHR) were calculated according to standard protocols.

**Results:** A total of 352 children aged 6 to 15 years participated in the study out of which 176 were subjects while the remaining 176 were controls. The overall prevalence of high BP was six (1.7%) made up of five and one for subjects and controls respectively. The difference in prevalence was not statistically significant ( $p = 0.061$ ).

**Conclusion:** The prevalence of high BP was higher among children of hypertensive parents compared with that of children of normotensive parents. Clinicians should routinely monitor BP in children whose parents are known hypertensives.

## ENDOCRINOLOGY

### PAN-LOS-068

#### **Prevalence and Associated Factors of Prediabetes among Secondary School Children Aged 10-19 years in Abakaliki: A Cross Sectional Study**

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**Background:** Prediabetes refers to blood glucose which do not meet the criteria for diabetes but are too high to be considered normal. Recently, there is a global rise in the prevalence of prediabetes among adolescents. There is a dearth of data in Ebonyi State, Nigeria.

**Aim:** To determine the prevalence and associated factors of prediabetes among school age adolescents in Abakaliki, Ebonyi State.

**Methods:** This was a cross-sectional study involving 787 secondary school adolescents derived by simple and stratified sampling method. Prediabetes was defined as blood glucose between 100-125mg/dl (3.9-5.6mmol/l) according to International Society for Paediatric and Adolescent Diabetes (ISPAD) Guidelines 2018.

**Results:** The study participants comprised 281 males (35.7%) and 506 females (64.3%), two-third being females with F:M ratio = 1.8:1. The mean age was  $14 \pm 2$  years. Majority of the participants had attained puberty (726; 92.4%). The prevalence of prediabetes with impaired fasting blood glucose was 30.3% and

HbA1c was 12.9% respectively. Prediabetes was most prevalent among the middle-aged adolescents (14-17 years) ( $p = 0.04$ ). Other factors significantly associated with prediabetes were obesity ( $p = 0.03$ ), systolic hypertension ( $p = 0.02$ ), diastolic hypertension ( $p = 0.009$ ) and family history of hypertension ( $p = 0.03$ ). Pubertal status was identified as a significant risk factor for prediabetes (pubertal: 90.9% vs pre-pubertal 9.1%,  $p = 0.005$ ).

**Conclusion:** The prevalence of prediabetes is high among adolescents in Abakaliki, with obesity and hypertension as predictors. Early screening is advocated for early intervention and possible halting of the progression.

### PAN-LOS-097

#### **Spectrum of Thyroid Disorders at the Lagos State University Teaching Hospital**

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**Introduction:** Thyroid disorders contribute significantly to paediatric endocrine referrals because adequate thyroid function is important in optimal physical and neurocognitive development in children. It is important to identify the spectrum of thyroid disorders and the most common ones so that appropriate institutional and national policies can be made.

**Aim:** To describe the spectrum of paediatric thyroid disorders at the Lagos State University Teaching Hospital.

**Methods:** The study was a retrospective cross-sectional study. The medical records of patients aged 0 to 17 years referred for thyroid disorders between March 2017 and October 2023 were accessed. Data such as age, gender and diagnosis were extracted from the records and analysed.

**Results:** A total of 44,324 patients were evaluated at the Paediatric Out-patient Clinic. Five-hundred and five (1.1%) were referred to the endocrinology clinic during the study period. Seventy-six (15.0%) of the 505 children were diagnosed with thyroid disorders. Mean age at diagnosis was  $5.9 \pm 4.9$  years with twenty-two (28.9%) being infants. Female to male ratio was 1.3:0.8. Congenital hypothyroidism and Graves' disease constituted 28 (36.8%) and 15 (19.7%) of the cases respectively. Eleven (39.3%) of the patients with congenital hypothyroidism had features of Down syndrome.

**Conclusion:** Thyroid disorders were twice more likely to affect females while one third of our patients were infants below one year of age. Congenital hypothyroidism and Graves' disease were the most frequent diagnoses made, and almost one in two patients with congenital hypothyroidism had features of Down Syndrome.

#### PAN-LOS-144

##### **C-peptide and Glutamic Acid Decarboxylase Autoantibodies in the Classification of Diabetes mellitus in Children and Young People in Lagos: A Cross-Sectional Study**

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**Introduction:** Type 1 Diabetes mellitus (T1DM) is the most common type of diabetes in children, but Type 2 Diabetes mellitus (T2DM) are increasingly being diagnosed. Other types of diabetes mellitus include neonatal diabetes, insulin-resistance syndrome and monogenic forms such as Maturity-Onset Diabetes of the Young (MODY). C-peptide and glutamic acid decarboxylase (GAD) auto-antibody levels can distinguish between T1DM and T2DM.

**Aim:** To measure the C-peptide and GAD autoantibody levels of diabetic children and young people in Lagos and to differentiate the types of diabetes mellitus among children and young people in Lagos based on C-peptide and GAD autoantibody levels.

**Methods:** This was a descriptive, cross-sectional study carried out at LUTH, LASUTH and MSCH, in Lagos State. Eighty-eight children and young people who met the inclusion criteria were recruited into the study. All the participants had physical examination and blood samples for C-peptide and GAD autoantibodies by ELISA. Their MODY probability scores were calculated.

**Results:** The mean age of study participants was 12.932±4.528 years. There were 45 (51.1%) males and 43 females (48.9%). Seventy-five percent had low C-peptide levels, while 55.7% were positive for GAD autoantibodies and were classified as T1DM. Gender, (males = 35.2% and females = 20.5%,  $p = 0.018$ ) and age ( $p = 0.033$ ) showed significant associations with the presence of GAD autoantibodies. Significant association was also observed between illness duration

and C-peptide ( $>5$ years = 44.3%,  $p = 0.001$ ). The majority, 89.8%, had MODY probability scores  $\leq 10\%$ .

**Conclusion:** The prevalence of T1DM differed with the different techniques of diagnosis used in this study; a higher proportion of T1DM were identified using C-peptide than GAD autoantibodies. The MODY probability calculator also revealed a very high proportion of individuals with T1DM.

#### PAN-LOS-189

##### **Status of Iodine Nutrition of School-age Children (6-12 years) in Egor Local Government Area, Edo State, Nigeria**

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**Introduction:** Iodine deficiency continues to pose a global public health problem despite international efforts to eliminate it. Spot-urine iodine concentrations collected from a population are currently the internationally accepted criteria for determining and monitoring the iodine status of that population. **Aims:** To assess the prevalence of iodine deficiency and some of the associated factors in school-age children in Egor Local Government Area (LGA) of Edo State, Nigeria, using urinary iodine concentration.

**Methods:** The study was a school-based descriptive, cross-sectional study conducted over a period of six weeks (November to December 2021). The study involved a total of 429 school-age children (6-12 years) recruited via a multi-stage random sampling method. The urinary iodine concentration determinations were performed using the Sandell-Kolthoff method, after sample digestion with ammonium persulfate.

**Results:** A total of 429 children were enrolled in the study. The median urinary iodine concentration (mUIC) was 84µg/L (IQR52.0-110.0). Two-thirds (66.2%) of the children had iodine deficiency (mild plus moderate) but none had severe iodine deficiency.

**Conclusion:** Iodine nutrition was adequate in one-third of the participants. The prevalence of iodine deficiency varied significantly with the type of school being attended by the children and the socioeconomic class of their families.

#### PAN-LOS-253

##### **Clinical and Laboratory Profile of Children Referred for Micropenis at the Lagos University Teaching Hospital, Lagos, Nigeria**

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**Background:** Micropenis is defined as a stretched penile length smaller than 2.5 standard deviations (SD) below the mean without any other penile anomalies. Accurate measurements are important to prevent misdiagnosis, considerable parental/child anxiety and unnecessary investigations and treatment. Micropenis may be idiopathic or result from pituitary/hypothalamic or primary testicular insufficiency.

**Objective:** To describe the clinical and laboratory profile of children referred for micropenis over a 5-year period.

**Methods:** Case records of patients who were referred with the complaints or diagnosis of “micropenis” from July 2018 to July 2023 were analysed.

**Results:** Seventy-eight children were referred for micropenis. On examination, measurements revealed that the stretched penile lengths were within reference ranges in 12 children, median age (range) 10 (1.3-13) years of age excluding them from further evaluations. The remaining 56 children with micropenis constituted 1.9% of 2928 new paediatric endocrine cases. Only 21 children (37.5%) could afford the necessary HCG stimulation testing. Co-morbidities included obesity (10), cryptorchidism (4) sickle cell anaemia (2), Down syndrome (2) and growth hormone deficiency (1). Challenges in management included unaffordability of laboratory tests and unavailability of some age-appropriate hormonal drugs for treatment.

**Conclusion:** Micropenis constituted a sizeable proportion of the paediatric endocrine consultations. Accurate measurements are important to prevent misdiagnosis. Licensing of age-appropriate drugs for treatment by relevant authorities is advocated.

## GATROENTEROLOGY

### PAN-LOS-049

#### Hepatic Steatosis in Children and Adolescents with Type 1 Diabetes mellitus in Lagos: A Preliminary Report.

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**Introduction:** Hepatic steatosis has been documented extensively in Caucasian children with Type 1

Diabetes mellitus (T1DM) with the use of ultrasonography. However, there is paucity of such reports in Nigerian children.

**Aim:** To document the prevalence of fatty liver and its correlates in children with T1DM in Lagos. **Methods:** This is a preliminary report of an ongoing cross-sectional study on hepatic abnormalities in children with T1DM. Data collected were anthropometry, lipid profile, glycated haemoglobin (HbA1c) and liver enzymes. Abdominal ultrasound of the liver was also performed. The presence of hepatomegaly and hepatic steatosis were documented.

**Results:** Sixty-eight subjects were enrolled; 34 (50.0%) were males and the median (IQR) age was 13.0 (10.0-15.7) years. The median (IQR) disease duration was 4.0 (1.75-5.25) years. Forty-four (64.0%) had hepatomegaly while hepatic steatosis was detected in 20 (29.4%) of them. The median BMI was comparable in children with or without steatosis ( $p = 0.384$ ). The median HbA1c value was 9.0% (7.5-12.3) and the HbA1c % was comparable in the two groups of children ( $p = 0.991$ ). Though higher in those with hepatic steatosis, the liver enzymes and lipid profile values were not statistically significantly different in children without steatosis. ( $p > 0.05$ ). Binary logistic regression analysis did not show a significant association of hepatic steatosis with age, duration of illness or glycaemic control.

**Conclusion:** The prevalence of fatty liver observed in this cohort of children with T1DM was high. There is a need for larger longitudinal studies to document factors associated with hepatic steatosis in Nigerian children with T1DM.

### PAN-LOS-160

#### A Trial of Locally Developed Ready-To-Use Therapeutic Food for the Management of Acute Malnutrition in Under-Five Children: A Preliminary Report

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**Background:** Nigeria has one of the highest rates of malnutrition globally. The use of ready-to-use therapeutic food (RUTF) in children with severe acute malnutrition has improved the management of malnourished children.



**Aim:** To compare the effectiveness of two variants of locally produced RUTFs - RUTF1 (groundnut-based) and RUTF2 (soya-based) with the gold standard (Plumpynut®) in the management of acute malnutrition in children.

**Methods:** In this clinical trial, children aged between 6 months and 5 years in three health facilities of Oyo State with acute severe and moderate malnutrition were randomised into one of the three RUTF groups. They were each followed up for six weeks and anthropometric measurements were taken serially. Complete recovery was defined as weight for age z-scores above -2 and/or mid upper arm circumference  $\geq 12.5$ cm.

**Results:** Seventy-six (76) children were enrolled with a median age of 14 months (range 6-51 months) and male to female ratio of 1:1.1. Complete recovery was recorded in 10 (52%) of the children on Plumpynut® compared to 11 (45.8%) and 9 (40.9%) who were on the RUTF1 and RUTF 2 respectively. The mean rate of weight gain was 3.46g/kg/day, 2.95g/kg/day and 3.08g/kg/day in the RUTF1, RTUF2 and the Plumpynut® groups respectively ( $p = 0.181$ ).

**Conclusion:** The preliminary findings suggest that the locally produced groundnut based ready-to-use food was associated with appreciable weight gain compared to the Plumpynut®. Larger studies are needed to confirm this finding which could support the acute need for its use in Nigeria.

#### PAN-LOS-222

##### **Hepatitis B and C Infections in HIV-infected Children and Young Adults Attending Paediatric HIV Care and Treatment Center in Calabar, Nigeria**

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**Introduction:** Globally, approximately 2.7 million and 2.3 million people living with HIV are co-infected with hepatitis B and C virus respectively. Relatively, little is known regarding HBV or HCV co-infection in HIV infected children in Calabar, Nigeria, though the routes of transmission of the three viruses are similar.

**Aims:** To determine the seroprevalence and risk factors for HBV and HCV among HIV infected children and young adults attending Paediatric HIV Care and Treatment Centres in Calabar, Cross River State, Nigeria.

**Methods:** This was a cross-sectional study involving 204 HIV-infected children and young adults, aged 1 to 18-years, attending four out-patient treatment centres. Blood samples were obtained and tested for hepatitis B surface antigen (HBsAg) and Hepatitis C virus antibody (anti-HCV antibodies).

**Results:** The mean age of the study participants was  $13.20 \pm 4.39$  years. Overall, four study participants were positive for HBsAg, giving a seroprevalence of 2% and none (0%) was positive for HCV-Ab. All positive study participants were females (3.4%), aged 11 years and above, and belonged to the low and middle socio-economic class, with no vaccination history against HBV.

**Conclusion:** The sero-prevalence of hepatitis B infection in this study was low, none of those who tested positive received vaccination against HBV. In view of the public health importance of HBV infection, routine vaccination against HBV should be extended to children and young adults above fourteen weeks of age in Nigeria.

#### PAN-LOS-233

##### **Eosinophilic Oesophagitis in a Nigerian Adolescent – A Case Report**

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**Introduction:** Eosinophilic esophagitis (EoE) is a chronic, immune, or antigen-mediated disease condition characterized clinically by symptoms related to dysfunction of the oesophagus and histologically is marked by eosinophilic infiltrate in the oesophageal mucosa. Allergic and genetic factors play important role in the aetiology of EoE.

**Case Summary:** This is a report of the first case of EoE in Nigeria in a 15-year-old female adolescent who presented to the University of Calabar Teaching Hospital with recurrent vomiting, abdominal pain, bloating, weight loss and dysphagia. She had initially received treatment for Gastro-oesophageal Reflux Disease. The weight on admission was 39 kg and height 170cm with a BMI below the 3rd centile. Peripheral blood showed an eosinophil count of four percent. Abdominal CT scan and upper GI series were normal. Faecal antigen for *Helicobacter pylori* and ova for stool parasites were negative. Histologic findings of proximal and distal oesophageal mucosal biopsies showed greater than 15 eosinophils per high

power field. She was treated with steroids and proton pump inhibitor. She had selective elimination of peanuts and wheat from her diet as these were found to trigger vomiting. The symptoms improved gradually and she is still being followed up.

**Conclusion:** This case shows that EoE may occur in developing countries, but the diagnosis may be missed without histological studies. There is a need for a high index of suspicion among gastroenterologists concerning patients with symptoms suggestive of GERD not responding to therapy.

## GENERAL PAEDIATRICS

### PAN-LOS-003

#### **A Mixed Methods Study of the Challenges and Prospects of Utilizing Telemedicine in Delivery of Healthcare Delivery to Nigerian children**

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**Background:** In spite of its immense potentials, telemedicine is underutilized for paediatric care in Nigeria even with the unacceptable mortality indices in newborns and children aged below five years of age.

**Aim:** To identify barriers, prospects and benefits of telemedicine utilization to achieve the SDG 3.2.

**Methods:** The convergent parallel approach of mixed methods design was used in this study. Interviewer-administered electronic questionnaires were used to obtain data from 57 and 50 mothers in an urban and a rural healthcare facility respectively in Abuja, Nigeria. Audio recorded semi-structured in-depth interviews lasting up to 20 minutes were conducted with key informants including a Paediatrician, an ICT expert and a hospital Matron. Qualitative data was analysed by inductive approach of thematic analysis.

**Results:** Telemedicine awareness was significantly higher in urban respondents compared with rural ( $p < 0.000$ ). Perceptions of telemedicine as inferior to physical consultation, lack of awareness and cost of service, in addition to constraints of resources were identified as barriers. Respondents who were unaware of telemedicine were 0.27 times less willing to pay for the services ( $p = 0.017$ ). Themes generated include resource constraints, standard operating procedures and possible advantages. Telemedicine was found to

be beneficial in terms of patients' convenience and physical workspace decongestion.

**Conclusion:** Public enlightenment on telemedicine applicability to newborn and childcare and resources availability will enhance its utilization with attendant benefits.

### PAN-LOS-116

#### **Minimal Access Surgery in Children: Our 32-Month Experience at Evercare Hospital, Lekki**

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**Background:** Laparoscopic and thoracoscopic surgery in children is still in its infancy stage in Nigeria with most centres still able to perform only basic laparoscopic procedures and no centre performs paediatric thoracoscopic surgery. This study analyses our experience with 55 cases of Laparoscopic and Thoracoscopic Surgeries in our Hospital.

**Objectives:** To highlight our experience with Minimal Access Paediatric Surgical Procedures in our Hospital.

**Methods:** This is a retrospective study of the first 55 children who had laparoscopic and thoracoscopic surgery in our hospital over the period of 32 months. We analysed the demographics, indications, procedures performed, rate of conversion to open and surgical complications. Records were retrieved from March 2021 to November 2023.

**Results:** There were 35 males and 20 females (ratio of 1.8:1). The subjects comprised 15 (27.3%) neonates, 11 (20%) infants (1 month to 12 months), 9 (16.4%) aged from above 1 year to 5 years, 7 (12.7%) were aged above 5 years to 10 years and 13 (26.0%) were aged >10 years. Four conversions to open surgery (7.3%) (1 appendectomy and 1 intra-abdominal tumour misdiagnosed as mesenteric cyst, 1 oesophageal atresia and 1 patent ductus arteriosus ligation) and 4 (7.3%) complications (one diathermy bowel injury, 2 post-operative iatrogenic oesophageal anastomotic dehiscence, one bile leak following Kasai Procedure) were noted.

**Conclusion:** Advanced laparoscopic and thoracoscopic surgeries in children are beginning to grow in our subregion. The role of teamwork and collaboration with other paediatricians is key to the outcome of these surgeries.

**PAN-LOS-120**

**Profile of Dermatophyte Infections Among Children Attending the Paediatric Dermatology Clinic at the University of Port-Harcourt Teaching Hospital, Port-Harcourt, Nigeria**

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**Background:** Dermatophyte infections remain an important cause of dermatological consultations in sub-Saharan Africa. The three principal genera involved are Trichophyton, Microsporium and Epidermophyton.

**Aim:** To determine the pattern and aetiologic agents of dermatophyte infections among children attending the paediatric dermatology clinic in UPTH.

**Methods:** This was a cross-sectional study involving consecutive children diagnosed with dermatophyte infections over an 18-month period (April 2022-September 2023). The diagnoses of dermatophyte infections were based on clinical features, dermoscopic findings as well as microbiologic confirmation where necessary.

**Results:** Dermatophyte infections were diagnosed in 50 (11.7%) out of the 428 children seen during the period of the study. The mean age of the children with dermatophyte infections was 10.21±4.34 years while the male to female ratio was 1:1.1. The dermatophyte infections encountered were Tinea capitis (32%), Tinea corporis (28%), Tinea magnum (18%), Tinea pedis (12%), Tinea unguium (8%) and Tinea cruris (2%). Dermatophyte infections were significantly more common in the adolescent age group ( $\chi^2 = 34.6786, p = 0.0001$ ) but there was no association with sex. The most common aetiologic agents of dermatophyte infections were Trichophyton (38.5%), Aspergillus (18%), Microsporium (10.2%) and Epidermophyton (7.7%).

**Conclusion:** Tinea capitis was the most common dermatophyte infection encountered with Trichophyton being the leading aetiologic agent. There is need to strengthen prevention and control measures to limit spread of dermatophyte infections among children in our society.

**PAN-LOS-218**

**A comparative study assessing clients' satisfaction with outpatient and inpatient health care services and its determinants in two public hospitals in Lagos**

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**Introduction:** Patient satisfaction remains low in developing countries, despite published strategies for quality care. Assessing satisfaction with health care services from the patient's viewpoint is crucial for improvement particularly in public sector hospitals.

**Aim:** To assess and compare clients' satisfaction with outpatient and inpatient health care services, and its determinants in Lagos University Teaching Hospital (LUTH) and Federal Medical Center (FMC), Ebute Metta.

**Methods:** This comparative study conducted from August to December 2023 used convenience sampling method.

**Results:** A total of 1,054 patients participated, achieving a 100% response rate. At LUTH, 57.9% were satisfied/very satisfied with out-patient services, and 63% with in-patient services. For FMC Ebute Metta, outpatient satisfaction was 87.2% and in-patient satisfaction was 87.5%. Predictors for LUTH in-patient satisfaction included admission process, waiting times, nursing care, physician care, room accommodation, and dietary services. Out-patient services at LUTH were influenced by assurance, tangible, reliability, and responsiveness domains. The predictor for in-patient satisfaction at FMC Ebute Metta was the waiting time while the predictors for out-patient services at FMC Ebute Metta were the assurance, tangible, reliability and financial domains.

**Conclusion:** While there was little variation in patient satisfaction between out-patient and in-patient services at both LUTH and FMC, the overall patient satisfaction at FMC was notably higher when compared to LUTH.

**HAEMATOLOGY & ONCOLOGY**

**PAN-LOS-005**

**Comparative Analysis of Coagulation Profile (Thrombin Antithrombin and D-dimer) in Hydroxyurea-treated vs Non-treated in Paediatrics Sickle Cell Anaemia Children in Lagos, Nigeria**

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**Introduction:** Hydroxyurea is a disease-modifying therapy with significant clinical and laboratory efficacy in sickle cell anaemia. The effect of hydroxyurea on the coagulation pathway an identified pathophysiologic mechanism remains under elucidated, especially in children living with SCA in sub-Saharan Africa.

**Aim:** To evaluate the coagulation profile (using D-dimer and Thrombin antithrombin complex as markers) in children with SCA.

**Methods:** This comparative, cross-sectional study was conducted over three months at LUTH among 80 children living with SCA aged 2-18 years and in steady state (40 HU-exposed and 40 HU-naïve respectively). Blood samples were assayed for D-dimer, thrombin antithrombin complex and complete blood count.

**Results:** The mean age of the participants in both groups was 11.35±4.6 years. D dimer levels (23.27 ng/mL) and thrombin antithrombin complex (29.79 pg/mL) were significantly lower among HU-exposed compared to HU-naïve groups (62.73 ng/mL and 109.34 pg/mL respectively ( $p < 0.001$ ). There was a negative correlation between D-dimer and TAT with the duration of use of HU ( $r = -0.499$ ,  $p = 0.001$  and  $r = -0.401$ ,  $p = 0.010$ ), respectively. There was a positive correlation between D-dimer and TAT with total WBC ( $r = 0.368$ ,  $p = 0.019$  and  $r = 0.385$ ,  $p = 0.014$ ) among the HU-naïve group and negative correlation between D-dimer and TAT and haemoglobin level ( $r = -0.303$ ,  $p = 0.047$  and  $r = -0.311$ ,  $p = 0.041$ ) among the HU-exposed group.

**Conclusion:** HU modulates the D-dimer and TAT levels of children living with SCA toward normal parameters.

#### **PAN-LOS-047**

##### **Nurses' Lived Experienced Following Paediatric End-of-Life: A Qualitative Study**

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**Introduction:** Nursing training focuses on health promotion and saving lives rather preparing for the end-of-life. Although nursing encompasses care at the beginning and end-of-life (EOL), nurses are not fully prepared for end-of-life care and death of patients.

**Aim:** To explore nurses' lived experiences following paediatric end-of-life care.

**Methods:** A hermetic qualitative study design was used to describe and interpret the experiences of the participants. Data was collected using a semi-structured interview guide, and face to face in-depth interviews were conducted among 21 participants that were selected purposively. Atlas T1 was used to analyse data while content and thematic analysis were used to present the data.

**Results:** Findings revealed that in terms of experience, nurses are affected by the death of a child anytime it happens. Nurses have poor knowledge of EOL care which affects their coping ability. They also feel it is unprofessional to cry or grieve openly following the death of patients. The major coping strategy adopted was more commitment to their work. Nurses are anxious when breaking news to parents for fear of violent reactions and being blamed.

**Conclusions:** A lack of knowledge of EOL care is a major influence on the nurses' view about death and dying. However, grieving is deemed unprofessional, and work is the coping mechanism of choice. Training and institutional guidelines on EOL care should be compulsory. Nurses should have psychotherapy sessions to explore their feelings concerning a paediatric patient's death.

#### **PAN-LOS-143**

##### ***Streptococcus pneumoniae* and *Haemophilus influenzae* – A Common Cause of Bacteraemia Among Sickle Cell Disease Patients in Sub-Sahara Africa**

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**Introduction:** Bacterial infections are a major cause of mortality and morbidity in children with Sickle Cell Disease (SCD). The most life-threatening being invasive pneumococcal infection. These bacterial infections are caused by fastidious encapsulated organisms which are commonly isolated in developed countries but rarely isolated in low-middle-income countries.

**Aim:** To isolate organisms causing bacteraemia in febrile children with SCD using polymerase chain reaction (PCR).

**Methods:** This was a cross-sectional study of 112 subjects with 123 febrile episodes. Consecutively recruited participants had their sociodemographic data, medical history and physical findings entered

into a structured proforma. Blood samples were taken for PCR and blood culture.

**Results:** The prevalence of bacteraemia was 80.5% using PCR and 9.8% by BACTEC blood culture ( $p = 0.0003$ ). *Streptococcus pneumoniae* (28; 28.3%), *Haemophilus influenzae* (26; 26.3%) and *Klebsiella pneumoniae* (13; 13.1%) were most commonly detected by PCR while BACTEC blood culture majorly isolated *Klebsiella pneumoniae* (5; 41.7%) and *Salmonella* (5; 41.7%). Most organisms showed good susceptibility to meropenem, amikacin, vancomycin and clindamycin but resistant to penicillins and ceftriaxone. There was pneumococcal bacteraemia in 21(25.9%) participants who had received pneumococcal vaccine. Of the seven patients who were on prophylactic penicillin and had received PCV-13, only one (14.2%) had pneumococcal bacteraemia.

**Conclusion:** The prevalence of bacteraemia in SCD using PCR was high and the main isolates were *Streptococcus pneumoniae* and *Haemophilus influenzae*, suggesting that these organisms remain a common cause of bacteraemia in SCD.

#### PAN-LOS-150

##### **Cognitive Function of Children with Sickle Cell Anaemia at the University of Benin Teaching Hospital, Benin City, Edo State**

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**Introduction:** Cognitive impairment is a common complication of Sickle Cell Anaemia (SCA) in children, however, studies showing its prevalence as well as specific domains affected in Nigeria where SCA has its highest burden are limited.

**Aim:** To determine the prevalence of cognitive impairment, the domains of cognition impaired and factors associated with cognitive impairment in children with SCA.

**Methods:** This descriptive, cross-sectional study was carried out in UBTH from January 2021 to March 2022. One hundred and six children with SCA, aged 6-16years as well as 106 age and sex matched controls were evaluated. Intelligence was assessed using the Wechsler Intelligence Scale for Children- Fourth Edition (WISC-IV), while Attention and memory, were assessed using Iron Psychology Computerized Test Battery (FePsy).

**Results:** The prevalence of cognitive impairment in the subjects was 56.6% and 6.6% in the controls ( $\chi^2 = 61.298$ ,  $p < 0.001$ ). The subjects had a higher prevalence of impairment in attention (57.5% vs 7.5%), memory (33% vs 6.6%) than controls with  $p < 0.001$  in all domains tested. Early diagnosis before the age of five years was associated with better WISC-IV scores.

**Conclusion:** The prevalence of cognitive impairment is high in children with SCA.

### INFECTIOUS DISEASES

#### PAN-LOS-051

##### **Clinical Profile, Patterns, Laboratory Diagnosis and Outcome of Children with Diphtheria in Lagos, Nigeria: A Re-Emerging Disease**

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**Introduction:** Diphtheria is a highly contagious vaccine preventable disease. Nigeria has seen a resurgence of cases.

**Objective:** To highlight the pattern and outcomes of children managed for diphtheria.

**Methods:** This was a retrospective, cross-sectional study done at the Lagos University Teaching Hospital from June 2020 to June 2023.

**Results:** Sixteen patients were managed over a 37-month period; majority 11 (68.8%) over the last 11 months with an average of a case per month. The mean age of patients was 8.7 years. Fever, sore throat, difficulty in breathing was present in 75%-100% of patients and bull neck occurred in 10 (62%). A whitish-grey pseudo-membrane was present in all patients (100%). One child had a convulsion (6.3%). Majority (93.5%) did not receive the booster doses of anti-diphtheria vaccines. Thrombocytopenia was present in 7 (43%) children. The commonest electrolyte derangement was hypokalemia (3; 18.8%). A child had confirmed pancarditis. Diagnosis was mostly clinical. Diphtheria Antitoxin (DAT) was administered to only 6 (37.5%) children; with varying combinations of oral erythromycin, penicillin and other antibiotics. Emergency tracheostomy was done in 5 (31.3%). The average duration of hospitalization was 5.5 days and mortality rate were 50%.

**Conclusion:** The high mortality rate found in this study is unacceptable. Prompt identification of cases

with proper management is important towards good outcomes. The shift in the age of occurrence represents a waning immunity and the need for booster doses of vaccines.

**PAN-LOS-019**

**Immunization Completion, Non-compliance and Drop-out rates in Children aged 12-59 months in Akpabuo Local Government Area of Cross River State**

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**Background:** Immunization is a cost-effective strategy to reduce morbidity and mortality associated with vaccine preventable diseases. UNICEF reports that 4.3million children in Nigeria still miss out of vaccination yearly.

**Aim:** To determine the compliance to NPI vaccination schedule as well as dropout rates in children aged 12-59 months in Akpabuyo Local Government Area of Cross River State, Nigeria. **Methods:** This was a cross-sectional study involving 1700 children conducted between April and August 2020. The children were selected by multistage sampling method from 20 villages. An interviewer-administered questionnaire was used for data collection. The immunization cards were inspected to ascertain the immunization status of each child.

**Results:** The number of fully immunized children was 806 (47.4%) while 894 (52.6%) of children were partially vaccinated. Vaccine compliance varied by type of vaccine with compliance ranging from 40.8% in HBV<sub>0</sub> to 65.2% in OPV<sub>1</sub>. The dropout rate for BCG to measles was 16.1%, Penta 1 to Penta 3 was 10.3% and Penta 1 to measles was 16.5%. The commonest reason for incomplete vaccination was lack of vaccine (15.4%). Mothers who were assisted during delivery by healthcare professionals (OR: 1.7; 95% CI: 1.085-2.621), were most likely to have their children fully immunized, while those whose children had ever missed vaccination because of no vaccine (OR: 0.3; 95% CI: 0.130 – 0.528) or vaccinator were least likely.

**Conclusion:** Compliance to each vaccine is poor with high dropout rates recorded. It is important to ensure availability of vaccines as well as encourage assisted formal antenatal care and delivery.

**PAN-LOS-131**

**Pattern and Treatment Outcomes of Childhood Tuberculosis in Rivers State University Teaching Hospital – A 5-Year Review**

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**Background:** Tuberculosis (TB), although preventable and curable remains a leading infectious cause of morbidity and mortality in children in sub-Saharan Africa. The patterns and treatment outcomes vary depending on the availability of effective screening/diagnostic measures and warrant documenting when previously unreported.

**Aim:** To describe the pattern and treatment outcomes of tuberculosis among children (below 18 years of age) in the Rivers State University Teaching Hospital (RSUTH).

**Methods:** A retrospective review was conducted from January 2018 to January 2023, using records of the Directly Observed Treatment Short Course Centre and all TB-related paediatric in-patient admissions in RSUTH.

**Results:** Of the 325 children seen, 170 (52.3%) were females with M: F ratio of 1:1.1 and mean age of 6.4 ± 5.7 years. About half, 162 (49.8%) were aged 1 month – 4.99 years of age. All were new cases. Three hundred and twelve (95.7%) had Pulmonary TB, 10 (3.07%) had TB meningitis, 2 (0.6%) had disseminated TB and another 2 (0.6%) had TB Lymphadenitis. TB/HIV co-infection rate was 18.7%. One hundred and ninety-three (59.4%) completed the treatment, 53 (16.3%) were cured, 7 (2.2%) defaulted from treatment, 16 (4.9%) were still on treatment, 43 (13.2%) were lost to follow-up, 1 (0.3%) transferred out and 8 (2.5%) died. Successful treatment rate outcome rate was 80.6%. The predictors for successful treatment included young age [AOR = 0.112, CI:0.051 – 0.242] and bacteriological diagnosis [AOR = 0.277, CI:0.135 – 0.571].

**Conclusion:** Pulmonary TB was the predominant type of TB and treatment outcomes were largely successful. With a high index of suspicion, early screening and prompt treatment remain vital.

**PAN-LOS-191**

**Impact of Radio Jingles on Immunization Timeliness: A Multicentre Nigerian Experience**

PAN Immunization Study Group

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**Introduction:** Childhood immunization is vital for reducing under-five morbidity and mortality, especially in low- and middle-income countries. Timeliness is crucial for development of protective antibodies in these children. Radio campaign improves immunization coverage by up to 18% compared to television. It is cheaper, readily available in rural areas and difficult-to-reach terrains.

**Aim:** To assess the impact of radio jingles on immunization timeliness and coverage. **Methods:** A prospective quasi- experimental study design was used. Radio jingles on the importance of immunization and timeliness were aired in local languages and pidgin English using popular FM stations in Enugu, Kano and Sokoto states. These were aired three times a day, three days a week for six months. Three hundred mother-infant pairs were assessed midterm and at the end of the 6 months for impact on timeliness for immunizations.

**Results:** A total of 599 mothers completed the study and 53% listened to radio at least 1- 2 times per week. Up to 142 (47.3%) had listened to the jingles compared to 203 (67.9%) that were assessed in the terminal end. By midterm, 99 (33%) had missed an immunization compared to 20% at the end, though not statistically significant ( $p = 0.259$ ;  $0.170$  respectively). Mothers were encouraged by the jingles to go for immunization (64.9% vs 47.3%) and influenced by jingles to be timely (61.5% vs 43.36%). Listening to jingles was found to significantly impact on timeliness ( $p = 0.016$ ;  $<0.001$  at mid and end term assessment).

**Conclusion:** Regular radio jingles on immunization were found to have significant impact on immunization timeliness among mothers in Nigeria.

#### PAN-LOS-216

##### **Trends of Incidence and Outcomes of Childhood Severe Malaria in a Tertiary Health Facility in Nigeria: A Four-Year Study From 2019 To 2022**

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**Background:** Nigeria ranks highest globally in malaria burden, disproportionately affecting children.

**Aim:** To investigate the trends of the incidence and outcomes of 948 children with cases of severe malaria in a tertiary hospital in north-western Nigeria.

**Methods:** We conducted a retrospective cross-sectional study of children with severe malaria between January 1<sup>st</sup> 2019 and December 31<sup>st</sup> 2022. We

extracted relevant data, including socio-demographics, clinical features, as well as hospitalization outcomes (death or discharge), and the trends were analysed over the period.

**Results:** Of the 8,295 paediatric admissions during the study period, 948 (11.4%) were cases of severe malaria. The trends of severe malaria (incidence) showed a surge of 17.3% in 2020 from 11.4% in 2019 and subsequently declined to 9.9% in 2022 ( $p < 0.001$ ). There was a decline in the proportion of under-fives with severe malaria from 57.4% in 2019 to 54.8% in 2022 ( $p = 0.019$ ). The crude mortality rate was 7.2% (68/948) and rose from 2.3% in 2019 to 10.3% in 2020 and declined to 8.5% in 2022 ( $p = 0.003$ ). The proportion of malaria deaths (from paediatric deaths) increased from 4.6% in 2019 to 17.3% in 2020, and declined to 9.3% in 2022, ( $p = 0.004$ ). Among under-fives, there was no significant change in the mortality rate [from 3.2% in 2019 to 10.2% in 2020, 6.4% (2021) and 10.3% in 2022,  $p = 0.104$ ] and the proportion of deaths in under-fives among malaria deaths (from 66.7% in 2019 to 52.9% in 2022,  $p = 0.653$ ). Among the clinical features, the presence of cerebral malaria and acute kidney injury had the highest case fatality rates (57.1 %).

**Conclusions:** After the initial surge in severe malaria cases during the COVID-19 era, there has been an overall progressive decline in childhood severe malaria cases. However, among the under-fives, the trends in malaria deaths remained unchanged.

#### PAN-LOS-242

##### **Rising Prevalence of Pediatric Lassa Virus Disease in the Sub-Region - The 2013-2023 Trend at The Lassa Fever Centre, Irrua, Nigeria**

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**Introduction:** West Africa has been witnessing increases in the annual Lassa virus disease (LVD) outbreaks but the impact on children has not been well documented.

**Objective:** To determine the contribution of paediatric cases to the burden of LVD at the Institute of Viral Haemorrhagic Fevers and Emergent Pathogens, the foremost specialized Lassa fever Centre in Nigeria.

**Aim:** We reviewed the records of LVD diagnosis and hospitalizations between 2013 and 2023 comparing four indices of LVD case-burden in children (proportion of suspected and confirmed cases, case positivity ratio, CPR, of serum LASV-RT-PCR in children vs adults, and proportion of LVD admissions) between the periods 2013-2017 and 2018-2023.

**Results:** The proportion of children (<18 years old) among all confirmed cases was 11% in 2013-2017 vs 25% in 2018-2023 [OR (95% CI) = 2.58 (2 - 3.34)]. The CPR for 2013-2017 vs 2018-2023 in children was 5.8% vs 9.9% (OR =1.79 (1.40, 2.29) while that in adults was 11.7% vs 12.9% (OR = 1.12 (1.02, 1.24)). The proportion of admissions due to children was similar for the two periods: 22.6% vs 22.6% (p = 0.765).

**Conclusion:** The burden of PLVD in endemic areas has at least doubled and that this may be a major contributory factor in the increased prevalence of LVD

#### **PAN-LOS-259**

##### **Bibliometrics of Paediatric Lassa virus disease - A call to action**

Akpede GO, Obaro SK, Adetifa I, Odumegwu C and the TWG of NISPID on VHF's

**Introduction:** Paediatric Lassa virus disease (PLVD) is of growing public health and medical concerns but has suffered neglect both regionally and internationally, even among paediatricians.

**Aim:** To apply the 'not-so-familiar' science of bibliometric analysis to draw attention to this contradiction and challenge, which cuts across all facets of child health and childcare.

**Methods:** We applied the basics of simplified bibliometric analysis to research output on PLVD relative to the output on LVD in general and in adults. We compared proportions using Chi-Squared test and computed Odds Ratio (95% Confidence Interval), OR (95% CI), for the difference between proportions.

**Results:** One thousand, one hundred and one scientific research articles on Lassa virus disease had been published from 1970 to 2017; 874 (85%) of 1026 papers of known origin originating from non-endemic middle-cum-high-income countries and 152/1026 (15%) from endemic countries in the sub-region (OR (95% CI) = 33.06 (25.92, 42.18)). In contrast, from 1970-2022, only 13 odd papers publications (about 1.2% of the 1,101 publications by 2017) primarily on PLVD (OR 95% CI) of publications on PLVD vs LVD

in general = 0.00014 (0.00007, 0.00031). Also, whereas the general LVD publications were encompassed a broad spectrum of the subject with >12 bands, the PLVD papers were on only 2-3 bands.

**Conclusion:** These preliminary results underscore the neglect of PLVD as a subject that should be of an immense public health and medical concern and therefore, call for urgent concerted action. We recommend the need for paediatricians in the sub-region to rise to the occasion.

#### **NEONATOLOGY**

#### **PAN-LOS-087**

##### **Health Professional Perspectives on Mobile Virtual Reality Simulations for Skills Maintenance in Essential Newborn Care – A Report from The Virtual ENC Study**

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**Introduction:** Virtual simulations provide opportunities for interactive learning, problem-solving, and standardized feedback.

**Aim:** To describe the perspectives of healthcare professionals in a low-and-middle-income country (LMIC) on using virtual essential newborn care (vENC), contexts of vENC use, perceptions of the value of vENC for ENC skills maintenance.

**Methods:** Focus Group Discussions (FGD) with 5-8 participants per group were held with nurses and midwives from 23 health facilities in Nigeria who were enrolled in the (vENC) study on using mobile VR simulations for skills maintenance six months after in-person ENC training. A semi-structured interview guide designed to elicit participants' experiences and opinions about using the vENC simulations. Qualitative analysis of FGDs recordings and transcripts were reviewed to identify initial themes by two independent researchers. Transcript codes were synthesized into overarching themes describing the benefits and challenges of mobile VR.

**Results:** From May to June 2023, 45 participants engaged in eight FGD. They had 5-20 years'



experience (69%), practiced at primary (44%), secondary (27%) and tertiary (29%) facilities. The participants believed that vENC was highly acceptable, convenient for practicing skills, obtaining feedback, and helped to increase their confidence. Most participants used the vENC at work, home, in public transit, offline and without the headset. They were proud of their ability to apply their skills in the clinical setting to resuscitate newborns and had taught others using vENC.

**Conclusions:** vENC simulations were perceived to be valuable for supporting skills maintenance in nurses and midwives who provide essential newborn care in an LMIC setting.

#### PAN-LOS-092

##### **The Impact of the Use of Technology in Neonatal Care in a Tertiary Health Facility: Achieving SDG-3.**

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**Introduction:** Neonatal mortality is a major contributor to under-five mortality, and Nigeria has the second-highest number of neonatal deaths globally. NEST 360 is Newborn Essential Solution Technology that makes use of technology to improve neonatal care. This includes, provision of radiant warmers, CPAP machines, oxygen concentrators, LED phototherapy lights and light meters, syringe pumps, point of care devices for bilirubin, haemoglobin and glucose estimation. They also provide capacity building and quarterly qualitative improvement supervision.

**Aim:** To showcase the impact of the NEST 360 equipment and supportive measures on neonatal mortality in our facility from April 2021 to May 2023.

**Methods:** A retrospective study. Neonatal mortality data was retrieved from the dashboard provided by NEST 360 for all neonates admitted during the study period in both the in-born and out-born units of the hospital.

**Results:** In the out-born unit, 2,024 babies were admitted during the study period. The mortality percent dropped from 30% at the installation of the devices to 19% in May 2023. While 2,328 babies were admitted in the in-born unit during the study period, the mortality rate also dropped from 16% to 9%.

**Conclusion:** The effective use of technology has tremendously improved neonatal care over the years. It can help achieve the SDG-3 in the nearest future.

There should be increased advocacy for all neonatal units to be equipped with these equipment to provide comprehensive care for sick newborns, improve diagnosis and outcomes in the care of the newborns.

#### PAN-LOS-111

##### **Determinants of Antenatal Care-seeking Behaviour in Lagos: Where Babies are Born and Optimising their Care Before and at Delivery**

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**Introduction:** Maternal and newborn deaths in Nigeria continue to be among the highest in the world, and despite the gains around reducing child mortality, newborn deaths have not had a proportional reduction. Women in high-density urban areas continue to seek care with Traditional Birth Attendants despite geographic proximity to health facilities with obstetric and newborn care services.

**Aims:** To identify the determinants of women's antenatal care-seeking decisions.

**Methods:** Using a structured questionnaire, a cross-sectional baseline study with 431 women of reproductive age was conducted in Ifako Ijaiye and Epe Local governments in Lagos.

**Results:** There was a high percentage of live births in private hospitals including nurse-led maternities, followed closely by TBAs; PHCs and General Hospitals accounted jointly for less than 20% of deliveries in 2022 at these locations. Seventy per cent of women surveyed did not recognize red flags in pregnancy and of them, 30% did not attend ANC with skilled healthcare professionals. A qualitative study (focus group discussions with men and women groups) to understand what informed where they sought care and delivered in both LGAs revealed family influence and fear of medical interventions to be leading factors.

**Conclusion:** To increase the uptake of safe maternal care services, maternal healthcare education needs to be supported by influencing women's influencers through facilitating family and peer engagement and increasing male involvement.

#### PAN-LOS-129

##### **Accuracy of a smart-phone AI-based application ('Ubenwa') in detecting neonatal hypoxic-ischaemic encephalopathy using cry sounds**

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**Introduction:** Hypoxic-ischaemic encephalopathy (HIE) due to perinatal asphyxia is a leading cause of neonatal mortality in developing countries like Nigeria. Its early detection, severity assessment and prognostication remain challenging since standard investigations like MRI or EEG are expensive.

**Aim:** Since HIE alters newborns' crying patterns, we developed and validated an automated and explainable AI-based algorithm for detecting HIE using newborns' cry-sounds.

**Methods:** This multi-centre prospective-cohort study enrolled perinatally asphyxiated and non-asphyxiated neonates  $\geq 36$ -weeks gestational age from five hospitals across Nigeria, Brazil and Canada. We used a smartphone, with the in-house developed application installed, to record 30-180 seconds of infant cries, and graded HIE with Sarnat staging (no, mild, moderate and severe HIE) within six-hours post-birth or at admission. Using spectrographic representations of the cry-sounds as input, we developed a deep neural network (DNN) and trained it to predict neurological outcome. Generic voice features and cry-specific biomarkers were extracted and analysed using a linear classifier.

**Results:** The database included cry-recordings of 149 encephalopathic and 959 healthy neonates. The DNN detected encephalopathy from cries with an AUC of 92.5% (88.7% sensitivity; 80% specificity). Of the 88 generic voice features and 26 cry-specific biomarkers studied, 18 demonstrated consistent correlation with HIE across hospitals, including pitch-derived markers such as a flat melody type and dysphonation.

**Conclusion:** This is the first inter-continental clinical study to demonstrate that HIE can be accurately determined from infant cries. This may translate to a low-cost, easy-to-use, and contact-free screening tool for at-risk babies, deployable with simple smartphones.

#### **PAN-LOS-136**

#### **Neonatal Hyponatremia Among Exclusively Breastfed Term and Late Preterm Babies at the University College Hospital, Ibadan**

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**Introduction:** Exclusive breastfeeding-associated hyponatremia which is due to inadequate intake of breastmilk in the first few days of life is a potentially dangerous complication which can negate the gains of promotion of exclusive breastfeeding. Late recognition is associated with neurologic complications and increased risk of mortality. The magnitude of the problem is not known in Nigeria.

**Aim:** To determine the incidence, severity and risk factors for hyponatremia in exclusively breastfed term and late preterm neonates born in UCH Ibadan.

**Methods:** One hundred and thirty-one exclusively breastfed term and late preterm babies born in UCH Ibadan were followed up in the first 2 weeks of life and had serum sodium and breast milk sodium of their mothers estimated at 4-5 days and 10-13 days of life. The weights of the babies were monitored.

**Results:** Neonatal hyponatremia occurred in 3.8% of cases and all had moderate hyponatremia (150-167 mmol/L) at 4-5 days, with resolution in all by 10-13 days. Postnatal weight loss ranged from 8-21% of their birthweights and this was significantly associated with hyponatremia. Maternal breast milk sodium had a significant correlation with hyponatremia at 4-5 days.

**Conclusion:** Exclusive breastfeeding-associated hyponatremia occurred in 3.8% of exclusively breastfed term and late preterm babies and significant weight loss  $>7\%$  in the first five days of life was a pointer to its occurrence. There was high breast milk sodium in their mothers as well as higher incidence of breastfeeding challenges. Babies with significant weight loss in the first five days of life should be screened for hyponatremia.

#### **PAN-LOS-178**

#### **Inefficient Neonatal Transport Services: A Hidden Driver of the Abysmally High Neonatal Mortality Indices in Nigeria**

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**Background:** The neonatal period is the riskiest time of life and neonatal deaths remain a global public health priority. The dearth of neonatal transport services (NNTS) is plausibly an underappreciated driver of the abysmally high neonatal mortality indices in Nigeria.

**Aim:** To evaluate neonatal transport services among selected health facilities in Port Harcourt Metropolis.

**Methods:** Twenty-eight randomly selected health

facilities [two tertiary, six private hospitals and 20 Primary Health Centres] were assessed on the availability, modality and practice of NNTS.

**Results:** Routine transfer of high-risk pregnant mothers occurred in 4 (14.3%) facilities; private cars/taxis arranged by parents/caregivers was the commonest mode of transport for sick newborns in 24 (85.7%) facilities. Two (7.2%) facilities had ambulances equipped with transport incubators. Nurses and nurse attendants with no formal training in neonatal transport accompanied referred neonates in 2 (7.2%) facilities. Six (21.4%) referring facilities contact receiving centres before the arrival of neonates and 6 (21.4%) receiving facilities give back referrals after offering neonatal care. None (100%) of the facilities had a trained emergency transport team.

**Conclusion:** NNTS is largely lacking and where available, unstandardized in health facilities in Port Harcourt. Healthcare workers are untrained to render such critical aspects of neonatal care for sick babies. There is an urgent need to train healthcare workers on intra/inter-facility neonatal transport and to establish an efficient neonatal transport network in Port Harcourt City, Nigeria.

#### PAN-LOS-248

##### **Postnatal Foot Length in the Estimation of Gestational Age in relation to Intrauterine Growth Pattern among Nigerian Neonates**

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**Background:** Neonatal survival is related to the maturity of the foetus at birth. It is important that the correct designation of the gestational age is done for appropriate risk assessment.

**Aim:** To determine the relationship between postnatal foot lengths and EGA in relation to intrauterine growth pattern among Nigerian neonates.

**Methods:** In this hospital-based, cross-sectional study, the postnatal foot lengths (PFL) of 260 neonates with EGA 30- 42 weeks were measured with Vernier digital calliper in millimetre within 48 hours of life. **Results:** A total of 260 neonates, comprising 140 (53.8%) preterm and 120 (46.2%) term neonates, were studied. The appropriate-for-gestational-age babies accounted for 85% (221/260) of the study population, followed by the small-for-gestational-age subgroup 9.2% (24/260). The mean PFL progressively increased from

58.86±2.69mm at 30 weeks to 71.21±8.59mm at 42 weeks. The mean postnatal FL also had a strong positive correlation with the EGA from 30 through 42 weeks ( $r = 0.855$ ,  $p < 0.001$ ). The overall mean foot length for preterm neonates was  $65.44 \pm 6.92$  mm while that of term neonates was  $77.92 \pm 4.24$ mm. The linear regression equation was generated as:  $EGA = 9.43 + (0.37 \times FL)$ ,  $p < 0.001$ . The PFL across the EGA had the highest positive correlation with the SGA intra-uterine-growth pattern, followed by the AGA and least by the LGA respectively ( $r = 0.936 > 0.861 > 0.666$ ).

**Conclusion:** The postnatal foot length correlated well with estimated gestational age and the correlation was best among SGA infants.

#### PAN-LOS-260

##### **The Role of Erythropoietin and Magnesium Sulphate in Hypoxic Ischaemic Encephalopathy: Preliminary results**

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**Introduction:** Therapeutic hypothermia is the recommended treatment for moderate – severely asphyxiated neonates. It is not readily available in low- and middle-income countries. Newer promising interventions include Erythropoietin (EPO) and Magnesium Sulfate (MgSO<sub>4</sub>).

**Aim:** To evaluate the short-term effects of EPO and MgSO<sub>4</sub> compared to routine care in the management of term infants with severe perinatal asphyxia.

**Methods:** This was a Randomised Control Trial conducted in the neonatal wards of two tertiary hospitals in Lagos over a two-year period. Term neonates diagnosed with perinatal asphyxia at admission were randomized to receive either EPO (34 infants), MgSO<sub>4</sub> (45 infants), or only routine care according to the unit protocol (29 infants). Survivors were followed up for two years for neurodevelopmental delay.

**Results:** There were 107 participants; 69% were males, and 76.6% were out-born. The mean gestational age and birthweight were 38.6 (±2.4) weeks and 3000 (±677) g, respectively. The mean age at admission was 14.0 (±12.5) hours. Three neonates had HIE I, 75 had HIE II, and 29 had HIE III. Only 13 babies received intervention drugs within six hours of birth. Thirty-eight (35.5%) neonates died. Survival was higher in

the MgSO<sub>4</sub> group (34/45, 75.6%) compared to the placebo group (14/28, 50.0%),  $p = 0.03$ , but similar to the EPO group (21/34, 61.8%),  $p = 0.17$ ). All neonates with HIE I, 52.3% with HIE II, and 9.4% with HIE III survived.

**Conclusion:** Neonates with severe perinatal asphyxia had a better short-term outcome when treated with MgSO<sub>4</sub> compared to placebo.

## NEPHROLOGY

### PAN-LOS-065

#### **Chronic Kidney Disease is Common Among Children with Sickle Cell Anaemia**

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**Introduction:** Persons with sickle cell anaemia (SCA) have an increased risk of kidney damage and chronic kidney disease. Persistent proteinuria is a recognized early marker of kidney damage. Although Nigeria has the highest burden of SCA, the frequency of kidney damage in children with SCA is largely unknown because the few published reports determined proteinuria either in one visit or used less sensitive methods like dipstick.

**Aim:** To determine the frequency of chronic kidney disease using persistent proteinuria in children with SCA.

**Methods:** One hundred and forty-nine children with SCA in steady state and 149 age- and sex-matched controls were consecutively enrolled from a tertiary hospital between May 2022 and January 2023. Information on sociodemography, past medical history and clinical features were obtained at the first visit. Proteinuria was determined at the first visit using random urine protein-to-creatinine ratio (Pr:Cr) and repeated at least three months afterwards for those with proteinuria. In addition, serum creatinine, full blood count (FBC) and foetal haemoglobin (HbF) were determined at the first visit. Persistent proteinuria was defined as urine Pr:Cr  $\geq 0.2$  at the two visits.

**Results:** The median (IQR) age of the study participants was 9.0 (6.0) years for both groups with 65% being males. Persistent proteinuria occurred in 35 (23.5%) children with SCA versus 4 (2.7%) controls ( $p < 0.01$ ). No child had massive proteinuria. Persistent proteinuria was more likely to occur as HbF level decreased (adjusted OR 0.583, 95% C.I 0.473 –

0.719). No significant association was observed between persistent proteinuria and age, sex, past clinic events, FBC and glomerular filtration rate.

**Conclusion:** About a quarter of children with SCA had chronic kidney disease defined as persistent proteinuria. Those with lower foetal Hb level were more at risk of persistent proteinuria.

### PAN-LOS-069

#### **Observations from a Large Database of Paediatric Systemic Lupus Erythematosus in Lagos**

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**Introduction:** Systemic lupus erythematosus (SLE) is a chronic, multi-systemic, autoimmune connective tissue disease of unknown aetiology. There is paucity of reports of SLE in children in Sub-Saharan Africa which creates the impression that it is uncommon in Black Africans residing in Africa.

**Aim:** To document observations in children with SLE in Lagos.

**Methods:** We reviewed our database of children (age <18 years) with SLE from July 2010 to November 2023 using the Systemic Lupus International Collaborating Clinics classification criteria. The medical records were reviewed to obtain information on the demographics, clinical presentation, laboratory results, treatments received, response to treatment and follow-up outcome.

**Results:** Forty-two children (mean age of 12.7 (2.4) years and 90.5% females) were identified over the study period; 69% since 2018. At diagnosis, blood disorders (94.8%) and kidney involvement (82.1%) were the most common SLE-defining features. Twenty (51.3%) had an estimated glomerular filtration rate <60 mL/min/1.73 m<sup>2</sup>. Most of the children ( $n = 36$ ) received pulsed methylprednisolone at diagnosis followed by either monthly doses of IV cyclophosphamide ( $n = 7$ ), mycophenolate mofetil ( $n = 22$ ), azathioprine ( $n = 4$ ) or methotrexate ( $n = 1$ ). All the children received hydroxychloroquine, tapering doses of prednisolone, vitamin D3, calcium and sun protection. Two children received rituximab. The outcome was determined for only 37 children (5 discharged against medical advice or were transferred to another facility) after a median follow up duration of 1.5 years (range 0.1-8.3 years): 21 (56.8%) were alive, 16 (43.2%) died and one was lost to follow up.

**Conclusion:** More children are being diagnosed with SLE. Although the manifestation is varied, blood and kidney disorders are common at presentation. Mortality rate is high.

#### PAN-LOS-132

##### **Dialysis Availability for Paediatric Acute Kidney Injury in Nigeria**

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**Introduction** Dialysis provides prompt treatment for acute kidney injury (AKI) and limits the morbidity and mortality from kidney failure.

**Aim:** To assess the current state of paediatric dialysis service (PDS) availability for AKI in Nigeria.

**Methods:** Using an online questionnaire, paediatric nephrologists in 24 hospitals caring for children with AKI across Nigeria were interviewed.

**Results:** All 24 hospitals in the six geopolitical zones that participated were tertiary and publicly financed. Twenty-three (95.8%) facilities rendered haemodialysis (HD) services, while 20 (83.3%) offered peritoneal dialysis (PD). Nineteen (79.2%) offered both peritoneal dialysis and haemodialysis. Ten (41.7%) had facilities to dialyze from the neonatal age to 18 years. Concerning PD consumables availability, 95% use improvised PD catheters with the commonest (50%) being nasogastric tubes. In 60%, PD insertion was performed by a paediatrician/paediatric nephrologist; 90% used improvised PD fluids, and 80% performed PD manually using improvised PD sets, but none used automated PD. Twenty (87.0%) had paediatric-dedicated dialysis machines. Concerning HD consumables availability, 26.1% always have access to paediatric dialyzers/bloodlines but were unavailable for children under five. The top hindrances to PDS access were financial constraints, a lack of paediatric dialyzers, and dedicated paediatric haemodialysis units (100.0%, 75.0%, 66.7%) respectively.

**Conclusion:** PDS in Nigeria is predominantly improvised and remains largely inaccessible to children with AKI. HD is the commoner available modality. There is an urgent need for concerted efforts to improve government and facility collaborations to provide age-appropriate dialysis consumables and subsidized PDS.

#### PAN-LOS-221

##### **Epidemic of Chemical-Induced Multiple Organ Failure Presenting as AKI in Young Children in The Gambia – The Clinicians’ Perspective**

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**Introduction:** Multiple organ dysfunction syndrome (MODS) is defined as a clinical syndrome characterized by the development of progressive and potentially reversible physiologic dysfunction in two or more organs or organ systems that is induced by a variety of acute insults. Acute kidney injury (AKI) is defined functionally as a rapid decline in glomerular filtration rate (GFR) leading to accumulation of waste products such as blood urea nitrogen (BUN) and creatinine resulting in inability of the kidneys to maintain and sustain fluid and electrolyte homeostasis. Clinical manifestations vary and are dependent on the original cause of the AKI.

**Aim:** This study is an observational fallout from the AKI crisis that occurred in the second half of the year 2022 in The Gambia.

**Methods:** An observational study at the Edward Francis Small Teaching Hospital Banjul of children who presented with features of multiple organ failure and AKI linked to ingestion of possibly contaminated syrups. History with physical examination were carried out and several body fluids samples, ingested drug samples were collected for laboratory and toxicological investigations while two autopsies were carried out.

**Results:** Sixty-six patients were admitted for AKI. Oliguria or anuria was mostly the reason for referral with a mean duration of  $4.03 \pm 3.0$  days prior to presentation/referral. The time interval between drug ingestion to the time of manifestation of oliguria/anuria was 1 to 6 days with a mean of  $2.9 \pm 2.6$  days and a mode of 3 days. Most of the laboratory tests including Liver Function Test, Renal Function Test, serum Uric acid levels, Full blood count were severely deranged. Autopsy results showed evidence of Acute Tubular Necrosis, periportal and interstitial fibrosis with multi-focal hepatic cell necrosis. The fatality rate was 95.4% occurring more in children less than 2 years of age with a male predominance.

**Conclusion:** Toxicological evidence strongly suggested that mortality was associated with ingestion

of the contaminated liquid medications which had resulted in multi-organ failure presenting as AKI.

## NEUROLOGY

### PAN-LOS-043

#### Pattern and Predictors of Neurologic Comorbidities among African Children with Epilepsy

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**Introduction:** Epilepsy is the most common neurologic disorder affecting children in Nigeria. It is associated with other problems besides epileptic seizures but is related to a group of neurologic comorbidities, including attention deficit hyperactivity disorder (ADHD) and cognitive, visual and hearing impairments, which can be unrecognised while focusing on the seizures.

**Aim:** To describe the pattern and predictors of neurologic comorbidities among children with epilepsy attending a Nigerian neurology clinic compared with those without epilepsy.

**Methods:** This cross-sectional study assessed the prevalence, pattern and predictors of neurologic comorbidities among 100 children with Epilepsy (CWE) attending the Paediatric Neurology clinic of Jos University Teaching Hospital, Jos and their age and sex-matched controls selected consecutively. The Vineland Adaptive Behavioural Scale II was used to assess intellectual disability.

**Results:** The prevalence of neurologic comorbidities among CWE vs controls was 65% vs 15% ( $p < 0.001$ ). Factors associated with neurologic comorbidities in CWE included younger age at onset of epileptic seizures ( $p = 0.003$ ), severity of seizures ( $p = 0.001$ ), history of status epilepticus ( $p = 0.044$ ), background history of intracranial infections ( $p = 0.029$ ) and the use of combination antiepileptic drugs ( $p = 0.001$ ). Predictors of neurologic comorbidities in CWE were treatment with Sodium Valproate and polytherapy. The prevalence of intellectual disability (ID) among CWE (36%) was significantly higher than the prevalence among the control group (2%) ( $P < 0.001$ ). Factors associated included age group  $>5$ -10 years at enrolment ( $p = 0.004$ ), onset of epileptic seizure before

the age of one year ( $p = 0.001$ ), polytherapy ( $p = 0.004$ ), severe seizures ( $p = 0.031$ ), and non-school enrolment ( $p = < 0.001$ ). The age group 5-10 years was a predictor of intellectual disability. **Conclusion:** Neurologic comorbidities are higher among CWE than controls; therefore, screening for neurologic comorbidities should be routine when assessing and managing CWE. The prevalence of intellectual disability is high among CWE. Screening for ID should be conducted in patients with severe seizures, polytherapy, early seizures and those not in school.

### PAN-LOS-044

#### Neonatal Seizures in Sokoto, North-western Nigeria: Aetiological factors, Clinical Types, EEG Correlates and Short-term Outcome

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**Introduction:** There is paucity of information on neonatal seizures from northern Nigeria. Also, there have been, hitherto, no published studies in Nigeria that included EEG in the evaluation and prognostication of neonatal seizures.

**Aim:** To determine the aetiological factors, clinical types, EEG pattern, and short-term outcome of neonatal seizures in babies admitted into the SCBU of UDUTH, Sokoto.

**Methods:** The study was prospective, hospital-based and descriptive, conducted over a period of two years. Details on history, clinical examination, and investigations- including interictal EEG, trans fontanelle ultrasonography, brain CT and short-term outcome were recorded.

**Results:** Of the 1,278 neonates admitted, 230 (18%) had clinically identifiable seizures. The gestational age ranged from 32 to 42 weeks, with mean (SD) of 38.5 (2.05) weeks. The age of onset of seizures ranged from 8 hours after birth to 22 days, with median (IQR) age of 1.35 days (9 h to 6 days). The commonest aetiology was hypoxic ischaemic encephalopathy (HIE), occurring in 153 (66.5%) cases. The remaining 77 (33.5%) cases were associated with bacterial meningitis and septicaemia in association with transient metabolic and electrolyte derangements, bilirubin encephalopathy, IVH, and hydrocephalus. Inter-ictal EEG was abnormal in 68.6% of cases. The mortality rate was 32.6%. Severe HIE, abnormal EEG,

and prematurity were significant risk factors for mortality.

**Conclusion:** The prevalence of neonatal seizures and the mortality were high. Concerted efforts should be made to improve obstetric and perinatal care. EEG should be included in the routine care of neonates with seizures in Nigeria.

### **PAN-LOS-117: Antiepileptic Drugs Associated with Cutaneous Reactions In Children- A Systematic Review**

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**Background:** Antiepileptic drug (AED) use may be complicated by cutaneous reactions of varying severity. Clinicians should be knowledgeable on the AEDs implicated and the common types of cutaneous reactions seen. This could be an important consideration while prescribing AEDs, so as to counsel caregivers as well as the patients on the possible complications and the need to present early for treatment.

**Aim:** To review the AEDs associated with cutaneous reactions in children as well as the pattern of skin lesions encountered in affected children.

**Methods:** This was a systematic review conducted in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2020 guidelines. Articles indexed in PubMed, Google Scholar and Semantic scholar (1975-2022) were systematically searched using the following Medical Subject Headings (MeSH terms) - Antiepileptic drugs; anticonvulsant drugs; hypersensitivity; cutaneous reactions, skin lesions; rash; children; paediatric. Additional references were identified from a review of literature citations. Articles reporting cutaneous reactions among children on AEDs were considered. Following manual screening, articles that did not contain sufficient data, review articles and editorials were excluded.

**Results:** Out of the 618 articles identified, 83 studies involving 5742 children were utilized in the final consideration. Aromatic AEDs accounted for majority (87%) of cutaneous reactions complicating AED use. The five AEDs most commonly associated with cutaneous reactions were - Carbamazepine (61.5%), Phenobarbitone (21.3%), Lamotrigine (10.5%), Phenytoin (4.0%) and Valproic acid (1.9%). The three most common cutaneous reactions associated with

AED use were - Generalized maculopapular rash (72%), Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis (11.5%) and Erythema Multiforme (9.2%).

**Conclusion:** Carbamazepine, Phenobarbitone, and Lamotrigine are the major AEDs associated with cutaneous reactions in children. The most common cutaneous reaction was generalized maculopapular rash. AED should be prescribed under careful monitoring. Early detection of cutaneous reactions and prompt intervention are needed to limit morbidity and mortality.

### **PAN-LOS-163**

#### **Identifying developmental impairments in Nigerian infants using the Ibadan Simplified Developmental Screening Chart**

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**Introduction:** There is a huge burden of developmental disabilities in the LMICs. Early identification of infants at risk of neurodevelopmental disorders is a major prerequisite for intervention programmes which significantly affects outcome.

**Objective:** To determine the prevalence, pattern and age at identification of developmental delay in the first year of life in a cohort of Nigerian infants.

**Methods:** A cross-sectional study. Infants seen at the immunisation clinics were routinely screened for signs of developmental delay using the Ibadan Simplified Developmental Screening (ISDS) Chart. **Results:** A total of 952 infants aged 6 weeks to 12 months were enrolled. Participants were categorised into six age groups 6 weeks (210), 10 weeks (167), 14 weeks (182), 6 months (109), 9 months (205) and 12 months (79). The mean gestational age at delivery was 38.62(2.48) weeks, with a history of prematurity in 71 (7.4%). Seven (0.7%) caregivers had concerns about their children's development. Eighty-six (9.03%) infants had features of developmental delay in at least one domain of development while 10 (1.1%) had global developmental delay. The male sex was associated with a higher risk of developmental delay ( $p < 0.001$ ). Delays in the communication domain were most pronounced at age 9 months and 12 months with 8.29% and 8.86% respectively while delays in the social/behavioural domain peaked at 6months (5.50%) and again at 12 months (7.59%). Delays in the gross

motor domain (4.95%), and the vision/fine motor domain were most notable at 14 weeks (4.95%).

**Conclusion:** One out of 10 Nigerian infants exhibit features of developmental delay which are often unnoticed by the caregivers, with an increasing trend of developmental delay with advancing age. The findings in this study underscore the importance of early screening and interventions in addressing developmental delays in children. The ISDS Chart represents a cost-effective, indigenous intervention for early identification of infants at risk of developmental delay for prompt intervention.

#### **PAN-LOS-198**

##### **Paediatric Sleep in Nigeria: Knowledge, Perception, Barriers and Facilitators to Sleep Medicine Practice among Nigerian Paediatricians**

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**Aim:** To assess the knowledge and perception of Nigerian Paediatricians about paediatric sleep disorders and their management. It also assessed the state of their current practice with screening, evaluating and treating sleep disorders in children and the perceived barriers and facilitators to the provision of quality care for sleep disorders for Nigerian children.

**Methods:** This descriptive, cross-sectional study was conducted among paediatricians who practiced in Nigeria and attended the Annual Scientific Meeting of the Paediatric Association of Nigeria (PAN) held in January 2023 at Akure, Ondo state, Nigeria. We utilized a pilot-tested, semi-structured questionnaire adapted from the Paediatric Sleep Survey Questionnaire.

**Results:** The 153 respondents were from the six geopolitical zones in Nigeria. More than two-thirds (66.7%) had a poor knowledge score. The majority of the respondents rated their confidence in diagnosing sleep disorders as fair (63.4%) or poor (22.2%). Almost all (98.7%) reported the lack of sleep laboratory in their centre of practice. Also, about two-thirds (68.0%) had no paediatric sleep clinic. The main barriers to the management of paediatric sleep disorders were lack of training (119; 77.3%) and lack of sleep laboratory (102; 66.7%). Having a sleep laboratory in the centre of practice was significantly associated with the knowledge of the paediatricians ( $p = 0.044$ ).

**Conclusion:** There is a need for interventions to improve the knowledge of Nigerian Paediatricians on sleep medicine and the provision of paediatric sleep laboratory facilities in Nigeria.

#### **PAN-LOS-203**

##### **The Validity of the M-CHAT as a Screening Tool for Autism Spectrum Disorder in Port Harcourt, Southern Nigeria**

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**Introduction:** The M-CHAT is a validated developmental screening tool for toddlers between 16 and 30 months of age. It is an Autism Spectrum Disorder (ASD) specific screening instrument for improving early detection, and was developed as a parental questionnaire, intended for use in the general population. It can be administered as part of a well-child visit and also be used to assess risk for ASD.

**Aim:** To determine the validity of the M-CHAT amongst toddlers in Port-Harcourt.

**Methods:** This was a cross sectional study which carried out amongst 1539 toddlers in Obio-Akpor LGA, Port-Harcourt. The M-CHAT and the DSM –V checklist were administered concomitantly on all the parents of the study participants. The study was carried out from Dec 2021 – July 2022.

**Results:** In 97.5% of cases, the M-CHAT was able to correctly detect the absence of ASD. The Sensitivity was 100%. Among the participants who tested positive using the M-CHAT, 35.6% truly had ASD when the DSM-V was applied. Whereas, among those who tested negative on the M-CHAT, 100% of them truly did not have ASD using the DSM-V. The positive likelihood ratio was 50 and the negative likelihood ratio was 0. The Area under the curve score was 0.998.

**Conclusion:** The M-CHAT was found to be a valid screening tool for ASD in Port-Harcourt, Southern Nigeria.

### **PULMONOLOGY**

#### **PAN-LOS-165**

##### **The Pattern of Antibiotic Prescription for Treatment of Acute Respiratory Tract Infection among Under five Children Accessing Care in a Tertiary Facility, Sokoto, Nigeria**

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**Introduction:** Acute respiratory tract infections (ARI) are the major cause for antibiotic prescription among under-five (U5) children, with majority not prescribed according to recommended guideline, thus leading to inappropriate prescription.

**Aim:** To determine the pattern of antibiotic prescription, antibiotic prescription rate (APR) and appropriateness of antibiotic prescription based on the WHO/PAN recommended guideline for the treatment of ARI among U5.

**Methods:** This is a retrospective study where records of U5 children with diagnosis of ARI seen in UDUTH, Sokoto were obtained between September 2021-July 2022 and reviewed. Socio-demographic data, ARI diagnosis based on IMCI/WHO, type and number of drugs/antibiotics prescribed, route, dose, duration, frequency, dosage regimen was recorded.

**Results:** A total of 2140 drugs and 1545 antibiotics were prescribed with average prescription per patient of 2.2 and 1.6 respectively. The commonest indication for antibiotic prescription was upper respiratory tract infection. High prevalence of APR and overuse of 72.2%, high parenteral antibiotic administration (71.0%), prescription from generic name (96.5%) and National essential medicine list (100.0%) were noted. Cephalosporins were the most commonly prescribed antibiotics (46.4%), while fluoroquinolones were the least (1.2%). Alternative line of therapy for ARI (48.0%) was mostly prescribed, followed by agents not recommended (33.5%), then first line agents (18.5%). However, most antibiotics were prescribed appropriately based on duration of therapy (93.6%), dose (66.0%), frequency (69.7%) and choice/indication (66.5%).

**Conclusion:** There is an urgent need for antibiotic stewardship and multi-disciplinary interventions to tackle antibiotic over-prescription and use, high parenteral administration and poor compliance to the recommended first-line guideline for ARI therapy.

#### PAN-LOS-209

**Compliance to Recommended Antibiotics Prescription Guidelines in the Management of Community-Acquired Pneumonia in Children, Port Harcourt, Nigeria**

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**Introduction:** The Paediatric Association of Nigeria (PAN) produced a guideline for the management and diagnosis of community-acquired pneumonia (CAP).

**Aim:** To assess compliance with recommended antibiotics prescriptions.

**Methods:** A prospective review of the folders of children who presented in the Children's General Outpatient Clinic of Rivers State University Teaching Hospital with symptoms of cough. Their biodata, clinical examination findings, prior antibiotics exposure and consult outcome were retrieved and analysed.

**Result:** Two hundred and fifty-three children with a median age of 3 years were studied from June to September 2022. No pneumonia was seen in 128 (50.6%), while 93 (36.8%) had various severity of pneumonia. Antibiotics had been taken by 55 (21.7%) of the children before presentation. Antibiotics were prescribed in 210 (83.0%) of all the consultations for symptoms of cough. The antibiotic prescription rate for children with no pneumonia was 108 (84.4%), pneumonia was present in 77 (88.5%) and severe pneumonia in 5 (83.3%). Cephalosporins were the most common type of antibiotics prescribed for pneumonia and severe pneumonia at a rate of 52.6% and 57.1% respectively. The overall rate of compliance with the PAN recommendations for antibiotic treatment guidelines was 42.5%. Children with no pneumonia significantly had higher odds of being managed with prescriptions that were not in line with the recommendations (OR = 25.4, 95%CI = 12.2 - 52.7, p<0.05). The highest type of noncompliance was prescribing antibiotics where it was not indicated (109;85.8%).

**Conclusion:** Compliance with PAN recommendations for antibiotics treatment in CAP is suboptimal. While the production of guidelines is excellent in standardizing health care, more work is needed in ensuring that these guidelines are utilized.

#### PAN-LOS-220

**Prevalence, Patterns, and Risk Factors for Inhalant Allergen Sensitisation Among Children and Adolescents Attending the Lagos University Teaching Hospital**

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**Introduction:** Childhood asthma is a common respiratory disorder that is a leading cause of morbidity and mortality, especially in low- and middle-income countries. Allergen sensitisation is linked with asthma severity, yet the burden and contributors are poorly understood in Nigeria.

**Aim:** To identify the prevalence, patterns, and risk factors for inhalant allergen sensitisation among children and adolescents with asthma in Lagos.

**Methods:** This comparative cross-sectional study was conducted among patients aged 1-17 years attending the Lagos University Teaching Hospital for six months. Eighty-five children with asthma and age and sex-matched non-asthmatic controls were recruited from the outpatient clinics. Non-atopic controls were recruited using the International Study of Asthma and Allergy in Childhood (ISAAC) questionnaire. Both groups were evaluated using questionnaires, and skin prick testing was performed for common aeroallergens.

**Results:** A total of 170 participants were enrolled into the study. The mean age of the participants in the case and control groups were  $9.68 \pm 4.1$  and  $9.60 \pm 4.1$  years, respectively. Allergen sensitisation prevalence was 77.6% among children with asthma and 18.8% among non-atopic controls. House dust mites and cockroach extract were the most common sensitisation reported among the cases. Increasing age was identified as a predictor of allergic sensitisation.

**Conclusion:** Allergen sensitisation is prevalent in children with asthma, and increasing age is a risk factor. Allergy testing should be incorporated into paediatric asthma care early to improve outcomes.

#### **PAN-LOS-256**

##### **Multi-factorial Barriers to Optimal Asthma Management in a Tertiary Hospital in Lagos**

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**Introduction:** Asthma management and control remain largely sub-optimal worldwide despite a better understanding of the disease and the availability of effective therapies.

**Aim:** To assess the level of asthma control and determine the barriers to good asthma control among hospital-based asthma patients attending a tertiary hospital in Lagos.

**Methods:** Consenting adults and children  $\geq 7$  years with physician-diagnosed asthma attending the

respiratory clinics of the adult and paediatric outpatient units of the Lagos University Teaching Hospital (LUTH) were consecutively recruited over six months. Asthma control was evaluated using the Asthma Control Test (ACT) questionnaire, spirometry was performed and health-related quality of life, asthma knowledge, medication adherence, and inhaler technique were assessed.

**Results:** One hundred and nine participants, with an age range of 7 to 81 years, and a mean age (SD) of 30(21.5) years were studied. Children constituted 42.2% of the study population. Asthma was uncontrolled in 63 (57.8%) participants, (58.7% in children and 57.1% in adults). Abnormal lung function was found in 75.8%. About 91% of the participants had poor inhaler technique, 51.4% had poor asthma knowledge and medication adherence was low in 55.7%. Asthma control was only significantly associated with asthma knowledge ( $p = 0.006$ ).

**Conclusion:** Asthma control among these patients in a tertiary hospital practice is very poor. Poor asthma knowledge, low medication adherence, and poor inhaler technique all contribute to poor asthma management. There is an overarching need to develop a holistic approach to improving asthma care premised on enhancing asthma knowledge and skills to use medications correctly.

## POSTERS PRESENTATIONS

### ADOLESCENT PAEDIATRICS/COMMUNITY PAEDIATRICS

#### PAN-LOS-001

##### **DIGITAL TECHNOLOGY TOOL FOR ROUTINE IMMUNIZATION: LESSONS LEARNED FROM OPEN DATAKIT(ODK) INTERVENTION AND WAY FORWARD**

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**Introduction:** Digital technology tools like Open Data Kit (ODK) can improve the quality of routine immunization (RI) data, yet these tools have not been deployed to improve the quality of our RI data.

**Aim:** To evaluate the implementation of ODK for RI data capture and transmission. We also discussed the way forward for the uptake of ODK for RI data capture and transmission.

**Methods:** Sixty focal persons were recruited from 60 PHCs and trained for two days on the use of ODK. The DHIS2 tools that were used included daily immunization register, daily vaccine utilization summary, and daily tetanus immunization register. These tools were loaded into ODK. The participants collected RI data and transmitted same via ODK to a secure server for three months. At the end of the exercise, we conducted six (ten per group) focus group discussions with them. They were interviewed to share their experiences. The implementation was evaluated using Proctor's outcomes with focus on acceptability, adoption, and appropriateness.

**Results:** Findings show that users were satisfied with the use of ODK for RI data capture and transmission. It was reported that ODK removed the need to transport data from the facilities to the local government headquarters for entry into the DHIS2 platform. It was also learned that it reduced errors and inconsistencies commonly reported in RI data.

**Conclusion:** Digital technologies like ODK can improve the quality of RI data in Nigeria. Policymakers and implementers must, however, consider contextual issues relating to incentivization of staff.

#### PAN-LOS-015

##### **Knowledge, Attitude and Practice of Growth Monitoring among Caregivers in Yenagoa Local Government Area, Bayelsa State, Nigeria**

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**Background:** Growth monitoring is a strategy that enables early identification and timely intervention in children who are not growing according to the expected pattern through periodic measurement of growth indicators preferably weight.

**Aim:** To assess the knowledge, attitude and practice of growth monitoring among mothers/caregivers in healthcare facilities in Bayelsa State.

**Methods:** A cross-sectional study of 313 caregiver-child pairs from selected health facilities in Bayelsa State.

**Results:** Questionnaires from 313 caregiver-child pairs were analysed, 97.8% were mothers to children they brought, and 51.1% were aged 28-37 years. Majority (140; 44.7%) were from low socioeconomic class. Two hundred and forty-eight children (79.2%) were aged 0-11 months, 52.1% were males, and 47.9% were females. Eighty-three responders (25.6%) demonstrated good knowledge of GM with scores of  $\geq 75\%$ , 132 (42.2%) had poor knowledge score of  $< 50\%$ , while 98 (31.3%) had fair knowledge scores. Growth chart appreciation scores were unsatisfactory as 75.4% (236/313) showed poor appreciation of the chart, 11.5% (36/313) had fair appreciation and 13.1% (41/313) had good appreciation. Only 47 (15%) respondents were ever taught how to use the growth chart. Average scores for good, fair and poor attitudes were 39.3%, 59.7% and 1% respectively. Ninety-eight per cent of the children had Road to Health cards but rate of appropriate utilisation of growth monitoring chart was only 25.6%.

**Conclusion:** Knowledge of child health cards and their utilisation by caregivers in Bayelsa State is poor. Adequate awareness of recommended program and schedule should be created and factors causing poor utilisation identified and addressed.

#### PAN-LOS-020

##### **Vaccination Status of Children with Sickle Cell Anaemia in a Tertiary Health Facility in North - western Nigeria**

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**Introduction:** Children with sickle cell anaemia (SCA) are at risk of developing life-threatening infections, which can be prevented by cost-effective interventions such as vaccination.

**Aim:** To assess the routine vaccination status of children with sickle cell anaemia seen at Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto, and to determine the associated factors.

**Methods:** A cross-sectional survey of children with SCA aged 6 months to 15 years attending Paediatric Haematology Clinic of UDUTH Sokoto. Information on vaccination was obtained using proforma containing National Programme on Immunization schedule.

**Results:** More than half (160; 55.0%) of the 291 subjects were males and 124 (43.0%) belonged to the age group category 5-10 years. Most 243 (83.5%) of the caregivers were Hausa by tribe, with 174 (59.8%) of them residing in urban settings, 118 (40.5%) had secondary level of education and 146 (50.2%) were unemployed with 176 (60.8%) belonging to middle socio-economic class. Most 274 (94.0%) mothers attended antenatal clinics, and 255 (87.6%) delivered at the hospital. Majority 288 (99.0%) of the mothers were aware of vaccination mostly 220 (75.6%) from health-workers, 215 (73.9%) knew it was important to prevent disease and 197 (67.7%) of the children were fully vaccinated. Reasons for partial/non-vaccination were mostly unavailability of vaccine at the health facility (35; 12.0%) and parental belief (22; 7.6%). Full vaccination was associated with maternal education ( $p < 0.001$ ), employment ( $p = 0.014$ ), social status ( $p < 0.001$ ) and place of delivery ( $p = 0.014$ ).

**Conclusion:** Over two-third of the subjects were fully vaccinated, and caregiver socio-demographics were associated with vaccination status.

#### **PAN-LOS-054**

##### **The Intrinsic and Extrinsic Motivating Factors of Healthcare Workers in the Delivery of Maternal and Child Health care Services in Nigeria**

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**Introduction:** Health workers when skilled, motivated, and well-supported improves both employee performance and patient satisfaction. Presently there are challenges in both establishing and retaining skill-mix of healthcare workers and adequate

responsiveness in Nigeria health sector. In order to strengthen health systems towards achieving Sustainable Development Goals (SDGs).

**Aim:** To evaluate healthcare workers motivation and performance in the delivery of maternal and child healthcare service.

**Methods:** This study was cross-sectional, mix method approach conducted in three senatorial zones of Enugu State. The study populations were all full-time health workers. Information collected were on achievements, supervision, availability of equipment, job security, responsive services, and adequate human resources. The qualitative data was categorized under three (3) thematic headings: intrinsic motivation, extrinsic motivation and quality of healthcare workers performance.

**Results:** Out of the 401 healthcare workers interviewed, the intrinsic motivating factors were: 246 (62.6%), 191 (49.5%), 205 (52.3%) and 246 (63.6%) for health workers performance, continuous education, working with supervision, incentive package and good inter-personal relationship with co-workers respectively. The extrinsic motivating factors were: 297 (76.2%), 234 (59.7%) and 207 (52.8%), for availability of drugs and equipment, job security, promotion and recognition respectively. These were supported with key quotes from the respondents.

**Conclusion:** The intrinsic and extrinsic factors motivate healthcare workers differently. Therefore, healthcare managers should leverage on this in their policy decisions and implementation, which will enhance healthcare service delivery.

#### **PAN-LOS-071**

##### **Declining Interest in Paediatrics Specialization Among Final Year Medical Students, House Officers and Young Medical Officers in Nigeria: A Cause for Concern and Need for Urgent Action**

Alfa AM

**Introduction:** The gross shortage of qualified health care personnel in the developing world relative to the population is well documented. In Nigeria, the inadequate number of paediatricians and the negative effect of this shortage on under-5 mortality rate appears to be worsening; no thanks to increased emigration of paediatricians to other countries in search of greener pasture and the progressive decline in the number of doctors seeking to specialize in all

medical specialties as a whole, and paediatrics in particular.

**Aim:** To find out the reasons why young medical doctors are shunning paediatrics specializations and proffer ways by which the tide can be reversed.

**Methods:** An online self-administered questionnaire was developed, and responses were sought from final year medical students, house officers and youth corps and post- youth corps medical officers across Nigeria.

**Results:** A total of 103 responses were received and analysed. The ages of the respondents ranged from 23 to 38 years old with a mean of 27.2 years (SD  $\pm$ 2.4 years). Fifty-three (51.5%) were males while 50 (48.5%) were females. Majority, (86.4%) are either currently studying or studied medicine in Nigeria. Twenty-nine respondents (28.2%) were final-year medical students just as were house officers. Youth corps members and young medical officers constituted 43.7% of respondents. Only 26 (25.2%) of respondents will consider specializing in paediatrics. Of this number, 10 (38.5%) were final-year medical students, 8 (30.8%) each were house officers and youth corps and post- youth corps medical officers. Females were significantly more likely to specialize in paediatrics than males ( $p = 0.01$ ). Nigerian trained doctors were more likely to specialize in paediatrics than foreign trained ones ( $p = 0.02$ ). The stressful nature of paediatrics and harsh attitude of the trainers towards trainees were the two most cited reasons for not wanting to specialize in paediatrics by the respondents. Surgery (25%), Internal medicine (18.8%) and Obstetrics and Gynaecology (14.6%) were the top three choices for those who would not specialize in paediatrics. Thirty per cent of those who would not want to specialize in paediatrics are willing to change their mind if paediatrics can be less stressful and if the trainers can be more humane in their approach.

**Conclusion:** The interest in paediatrics specialization among younger generation of doctors is waning. There is need for attitudinal change among paediatrics trainers to be more accommodating so as to attract the younger ones to the field of paediatrics

#### PAN-LOS-135

#### **Tertiary Paediatric Health Facility in Rural Settings – An Option for Reaching Every Child in Nigeria with Optimal Care?**

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**Introduction:** Reaching every child in Nigeria with optimal care faces socio-cultural, political, environmental, infrastructural, and manpower challenges in Nigeria, especially in the rural areas. The role of equitable distribution of tertiary health care facilities across the rural-urban divide is of significant importance.

**Aim:** To assess the uneven distribution of tertiary paediatric health facilities across the rural and urban areas, its impact on children's optimal care, the outcome and challenges of current interventions aimed at bridging the gaps, and the way forward for the rural child in Nigeria.

**Methods:** This narrative-review examines studies that reported the key factors that affect the rural-urban disparities in distribution of tertiary health facilities, the challenges of existing interventions aimed at bridging the gap, and the data that will enable guided decision.

**Result:** The study revealed a skewed distribution of tertiary health facilities towards the urban area, with attendant poor health indices in the rural area, despite existing primary and secondary health services, which are faced with some limitations that can be improved by specialist care that is obtainable at tertiary level of child health care.

**Conclusion:** The challenges facing the current rural child health intervention programs suggests an option of setting up tertiary health facilities in selected rural areas based on socio-demographic or relevant considerations. This will not replace but strengthen the primary and secondary health care services, reduce the overbearing demand on the urban tertiary health facilities.

#### PAN-LOS-180

#### **Profile of Intentional Self-poisoning Among Adolescents at the Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria: A 2-year Review**

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**Introduction:** Intentional self-poisoning (Deliberate self-poisoning) is fast becoming a major public health problem because of its alarmingly increasing rate among adolescents. A profile of intentional self-poisoning cases may help guide preparedness for

management and possible institution of preventive measures.

**Aim:** To assess the socio-demographic profile of adolescents managed for intentional self-poisoning at the Paediatric Unit of Ekiti State University Teaching Hospital, Ado-Ekiti.

**Methods:** A retrospective, cross-sectional descriptive study was conducted. The records of 10 adolescents managed for intentional self-poisoning from December 2021 to November 2023 were reviewed. Intentional self-poisoning was defined as deliberate ingestion of harmful substances with the intention of causing injury to self. Information extracted include age, sex, name of substances ingested, duration of admission and outcome of treatment.

**Results:** There were 4 (40.0%) males and 6 (60.0%) females. The median age of adolescents with intentional self-poisoning was 15.0 years (interquartile range 13.0- 15.3 years). The agents involved were organophosphates (5; 50.0%), paraquat (3; 30.0%) and substances not documented (2; 20.0%). The mean (standard deviation) duration of admission was 1.7 (1.06) days. Six (60.0%) were discharged, 1(10.0%) left against medical advice and 3 (30.0%) deaths were recorded. All the 3 that died ingested paraquat. Most of the patients took the substances because they were reprimanded for ill-behaviour and 2 (20.0%) had associated diagnosed psychiatric disorders.

**Conclusion:** More females had intentional self-poisoning and paraquat remains a lethal poison in our study. There is a need for increased awareness about deliberate self-poisoning particularly on the dangers associated with it among adolescents and general populace.

#### **PAN-LOS-234**

##### **Audit of Birth Registration of Children seen at the University of Benin Teaching Hospital, Edo State, Using the Immunization Card**

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**Introduction:** The registration of children at birth is compulsory in Nigeria as this is the first legal document to show the existence of a child. It is also important because it provides important data that is used for health planning and policy making. Nigeria the most populated country in Africa has a paucity of data on birth registration as it has been found that a major proportion of births are not registered.

**Aim:** To determine the proportion of children under the age of 5 years seen at the University of Benin Teaching Hospital who were registered at birth, using the immunization card as a tool.

**Methods:** The study adopted a descriptive, cross-sectional method where 100 children under the age of 5 years were recruited consecutively. A semi structured self-administered questionnaire was used to get relevant data like place of birth, social demographics from parents and birth registration and access of immunization services from the immunization card.

**Result:** Fifty-two per cent of the children studied had their births registered. Home delivery and lack of post-natal clinic visits were negatively associated with registration of birth. There was no significant association between mother's level of education with registration of birth.

**Conclusion:** A high proportion of children at the UBTH did not have their birth registered and this has implications for health planning and policy development. It is advocated that more effort be put into enlightening the populace on the need for birth registration.

#### **PAN-LOS-247**

##### **Contextual Factors Promoting Substance Use and Risky Sexual Behaviours of Adolescents in Ibadan Urban Slums**

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**Introduction:** Adolescent substance use has attained an epidemic proportion in Nigeria, and it is associated with risky sexual behaviours. Earlier literature focused mainly on in-school adolescents with resultant dearth of information about out-of-school adolescents despite their peculiarities. Effective intervention to address both problems will require an understanding of the interplay of factors responsible for both substance use and risky sexual behaviours of out-of-school adolescents.

**Aim:** To explore the contextual factors that promote substance use and risky sexual behaviours among out-of-school-adolescents in Ibadan urban slums.

**Methods:** This was a case study that explored the life histories of three out-of-school adolescents with established substance use. Content analysis and timeline were used for data analysis.

**Results:** There were two males and a female who were 15 and 18, and 17 years old respectively. Experimentation with substances started with friends and family members while they were still in school. They all started substance use following the nuclear family breakdown and parental financial crises. They all became established substance users following reduced parental supervision and after dropping out of school. The three adolescents were poly-drug users. They all engaged in risky sexual behaviours including early sexual debut, multiple sexual partners, having sex without condom and sex under the influence of substances.

**Conclusion:** Unstable home setting reduced parental supervision and dropping out of school promoted substance use by adolescents who also had multiple risky sexual behaviours. Addressing the identified factors can be strategic in the prevention of adolescent substance use and risky sexual behaviours.

#### PAN-LOS-251

##### **The Relationship Between School Health Programme and Adolescent Psychoactive Substance Use in Makurdi, North Central Nigeria**

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**Introduction:** Globally, there is an increase Adolescent Psychoactive Substance Use (PSU) with ominous health and social consequences. School-based interventions, through the School Health Programme (SHP), have been found to be effective in addressing adolescent PSU in schools' assessment of the relationship between SHP and adolescent PSU could strengthen strategies against adolescent PSU

**Aim:** To assess the relationship between implementation of the SHP and adolescent PSU in Makurdi, Nigeria.

**Methods:** It was a cross-sectional study involving 384 adolescents in five schools in Makurdi conducted in September 2022. A structured questionnaire was used to obtain information. (Age, sex, ethnicity, and their socio-economic status) from each adolescent. The School Health Programme Evaluation Scale (SHPES) and The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) were used in screening for SHP performance and adolescent PSU respectively.

**Results:** All (five) the schools had the minimum score for SHI. Only one of the schools, a private school, had the minimum score in all the three domains of SHS, SHI, and HSE. None of the schools had the maximum score in any of the three domains of the SHP. There were more subjects (207, 53.9%) who used psychoactive substances in the schools with below minimum scores in the School Health Programme Evaluation Scale and this was statistically significant, ( $p < 0.001$ ).

**Conclusion:** Limited implementation of the SHP was significantly associated with adolescent PSU. This outcome underscores the need to promote and institute SHP in adolescent school settings.

### ENDOCRINOLOGY

#### PAN-LOS-006

##### **Successful Gender Reassignment in a Young Adult with 46, XY 17-hydroxysteroiddehydrogenase-3 Deficiency: A Case Report**

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**Introduction:** The isoenzyme 17 $\beta$ -hydroxysteroid dehydrogenase-3 (17BHS-3) is required for the conversion of androstenedione (A) to testosterone, (T) which is subsequently converted to dihydrotestosterone (DHT) which facilitates development of male external genitalia. 17BHS deficiency is a rare autosomal recessive disorder but frequent cause of female to male transition at puberty. Successful gender reassignment requires management by a multidisciplinary team.

**Case Summary:** Patient first presented at age of 12 years, with phallic enlargement at puberty, previously raised as a female. Examination revealed Tanner stages breast 2, pubic hair 4, stretched phallic length (SPL) 3.2cm, Prader 3. Weight: 38.5kg, (between 3rd and 10th centile) Height: 1.465m (25th centile), Blood pressure: 96/70 mmHg. The child represented at 19 years with progressive masculinization (B1, Sinnecker Stage 3b). USS, MRI & Laparoscopy revealed intrabdominal left testis, intracanalicular right testis, vas deferens, bilateral pampiniform plexus with no uterus or ovaries. Histology of gonadal biopsy showed germ cell aplasia. Karyotype was XY. The surgeons pieced gonads in scrotal sacs after biopsy. HCG

stimulation test: T/DHT ratio day 1: 4.95, day 4: 12.3 (<20nmol/L) and T/A ratio day 1: 0.22, day 4: 0.17 (>0.8) strongly suggestive of 17BHS deficiency. The child is awaiting results of genetic mutation analysis. Received psychiatrist/psychologist's evaluation and therapy and without coercion requested for gender reassignment to male. He has had orthoplasty with plans for urethroplasty after 6months.

**Conclusion:** Early diagnosis of 17HSD-3 deficiency, even at puberty is important and the MDT needs to support the patient through the transition process. Life-long care by the adult endocrinologist, surgeon and psychologist is essential.

#### **PAN-LOS-017**

##### **Co-existence of Congenital Adrenal Hyperplasia with Beckwith-Wiedemann syndrome in a Female Neonate: A Case Report**

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**Introduction:** Beckwith-Wiedemann syndrome (BWS) presents with overgrowth, anterior abdominal wall defects and visceromegaly. BWS is rarely associated with adrenal cytomegaly and adrenocortical carcinoma however, cases of Congenital adrenal hyperplasia (CAH) have not been reported. Congenital adrenal hyperplasia (CAH) is the leading cause of atypical genitalia in the female newborn.

**Case Summary:** A late preterm infant presented at the third hour of life with anterior abdominal wall defect and swelling noticed at birth. Examination revealed coarse facial features, macroglossia, omphalocele major -large umbilical defect measuring 7cm with intact sac, prominent labia majora with hyperpigmented and enlarged clitoris. Cardiorespiratory examination was essentially normal. Weight was 3600g (>97th percentile), length and OFC were at 95<sup>th</sup> and 50<sup>th</sup> percentiles respectively. The child also had hypoglycaemia. The serum electrolytes were essentially normal. AM serum cortisol done on 8th DOL was low – 77.7 (240-618 nmol/l) with serum testosterone and 17-hydroxyprogesterone being elevated –2.87 (0.03-0.2 nmol/l) and 32.76 (< 1.89 nmol/l) respectively. Thyroid function test revealed low free T3 levels 2.53 (4.4-7.3 pmol/l) with normal TSH 1.149 (0.400-8.500 mIU/l); free T4- 14.35 (7.5 – 21.1 pmol/l). Pelvic

ultrasound revealed female internal organs. She was commenced on hydrocortisone replacement therapy and is currently on oral hydrocortisone at 15mg/m<sup>2</sup>/day. The omphalocele major was managed conservatively by the paediatric surgeons. Clitoromegaly has resolved with normal pigmentation of the external genitalia, she is gaining weight and attaining neurodevelopmental milestones.

**Conclusion:** Beckwith-Wiedemann syndrome is a complex multisystem disorder with varying phenotypes and could also present with congenital adrenal hyperplasia.

#### **PAN-LOS-022**

##### **Developmental Delay, Epilepsy and Neonatal Diabetes (DEND syndrome) in a Nigerian Infant**

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**Introduction:** Neonatal Diabetes mellitus (NDM) is a rare genetic disease seen in children below six months or between six months and one year of life. Incidence is about 1:90,000 live births. NDM is defined as persistent hyperglycaemia and insulin deficiency requiring insulin therapy. DEND (Developmental delay, epilepsy and neonatal diabetes) syndrome is even rarer but the most severe form of neonatal diabetes.

**Case Summary:** A 6-month-old female infant presented with high grade fever, recurrent afebrile seizures, (first episode being at the third month of life) and delayed developmental milestones. She is yet to attain social smile and neck control. There is no family history of diabetes or seizures. Random blood glucose was 412 mg/dl (ref: 70-140mg/dl) and urinalysis showed ketones (2+). Glycosylated haemoglobin was 14.5% (ref: <6.5%), serum C-peptide was 0.01↓ (0.78 – 5.19 ng/ml) and thyroid function tests were normal. Electroencephalogram, serum electrolytes, calcium and phosphates done in assessment of seizures were normal. She was managed as diabetic ketoacidosis precipitated by sepsis in monogenic DM to exclude DEND syndrome. She is presently on multiple daily injections (MDI) of insulin and anticonvulsants. Blood glucose control is quite challenging because of frequent intake and variability in quantity of food peculiar to her age. Challenges of management include unavailability of continuous subcutaneous insulin infusion therapy and genetic studies which are ideal for management. **Conclusion:** Neonatal diabetes is a



rare form of monogenic diabetes. Blood glucose checking remains important in diagnosis of diabetes especially in such rare cases. Management can be challenging in our resource-constrained settings.

#### PAN-LOS-025

##### **Health-related Quality of Life in Children and Adolescents with Type 1 Diabetes mellitus**

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**Introduction:** The diagnosis of Type-1 Diabetes mellitus (T1DM) comes with considerable physical, psychosocial and economic challenges for the patient and the family. As such, there is a worldwide advocacy for a quality-of-life assessment.

**Aim:** To assess the health-related quality of life in children with T1DM at the Lagos University Teaching Hospital (LUTH).

**Methods:** This was a comparative, cross-sectional study that recruited 50 children with T1DM and 50 controls (children with non-chronic conditions or healthy siblings of the patients). Data were collected with the aid of a pre-designed study proforma while the QoL was assessed with Paediatric Quality of Life Inventory (PedsQL) 4.0 generic and diabetic modules.

**Results:** The mean age of all participants was  $13.4 \pm 3.6$  [10 – 17 years]. The total mean score of health-related quality of life (on the generic scale) was 73.0 (11.8), This mean was significantly lower than the mean total scores reported by controls [86.5 (10.4),  $p < 0.001$ ]. Patients in this study had significantly more impaired health-related quality of life compared to healthy controls.

**Conclusion:** This study reports impaired health-related quality of life functions in children with T1DM compared to healthy controls. Parent proxy reports of quality of life were correlated with child self-reports. Glycaemic control, HbA1c levels and socioeconomic status were clinically significant factors associated with health-related quality of life.

#### PAN-LOS-033

##### **Mucopolysaccharidosis IVA (Morquio Syndrome Type A): Challenges of Diagnosis and Management of Rare Diseases in a Resource Constrained Setting: A Case Report**

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**Introduction:** Mucopolysaccharidosis Type IVA (MPS IVA, or Morquio syndrome type A) is rare inherited metabolic lysosomal disease caused by the deficiency of the N-acetylglucosamine-6-sulfate sulfatase enzyme. The deficiency of this enzyme accumulates the specific glycosaminoglycans (GAG), keratan sulfate, and chondroitin-6-sulfate mainly in bone, cartilage, and its extracellular matrix. GAG accumulation in these lesions leads to unique skeletal dysplasia in MPS IVA patients. Clinical, radiographic, and biochemical tests are needed to complete the diagnosis of MPS IVA. Early and accurate diagnosis with subsequent treatment with enzyme replacement therapy (ERT) and haematopoietic stem cell transplantation provides a better quality of life and prolonged lifetime in affected patients.

**Case Summary:** A 5-year-old boy was referred to the paediatric endocrinology clinic for growth hormone therapy for short stature by the orthopaedic surgeons. Examination revealed abnormal gait, coarse facies, short neck, widened wrists and ankles, bilateral genu valgum with a lot of pains with movement. Weight and height: 14kg and 81.7cm respectively (<3rd centile). Investigation results revealed serum calcium, phosphorus, alkaline phosphatase, albumin, thyroid function tests and IGF1 within normal limits. Bone Age was 4.5 years and skeletal X-rays showed short and wide tubular metacarpals, tapering of the head of the proximal, middle and distal phalanges with hypoplastic, irregularly shaped and ossified carpal bones suggestive of MPSIVA. Enzyme Analysis showed significantly decreased N-Acetylgalactosamine-6-sulfatase activity consistent with MPS IVA. Efforts are being made to access enzyme replacement therapy (ERT) for the child.

**Conclusion:** Early and accurate diagnosis of rare diseases such as MPS is vital to providing optimal patient management.

#### PAN-LOS-042

##### **Serological Screening for Celiac Disease in Children and Young Adults with Type 1-Diabetes mellitus in Lagos: A Hospital-based Study**

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**Background:** Type 1 Diabetes mellitus (T1DM) and celiac disease (CD) could co-exist due to common aetiological factors and several studies have reported this association in the paediatric population from many countries. However, studies on the prevalence rates of CD in sub-Saharan Africa are few.

**Aim:** To determine the prevalence of celiac disease in children and young adults with T1DM.

**Methods:** A cross-sectional study involving patients with T1DM aged 1 – 24 years attending the endocrine clinic of selected health facilities in Lagos, (LUTH, LASUTH, MSCH). Study participants were screened for CD by measuring total serum IgA antibodies level and antibodies to tissue transglutaminase (tTG).

**Results:** Eighty-eight participants were recruited: 44 (50%) females and 44 (50%) males. The mean age was 12.73±4.57 years. The mean age at diagnosis and duration of diabetes were 9.07±3.602, and 3.63±3.164 respectively. No participant had IgA deficiency, so the tissue transglutaminase IgG was not done. Only one participant, a female (1.1%) tested positive to the tTG IgA serum antibody with a value of 21.15 AU. Duration of DM was one year and she had no clinical symptoms of coeliac disease, and had a normal anthropometry.

**Conclusion:** A low prevalence of CD was observed in Lagos. A multi-centre country-wide study is recommended to determine the true prevalence in Nigeria. Meanwhile in the studied centres, routine screening for CD may be low- priority considering the huge financial burden of diabetes care on patients and families with limited resources and out-of-pocket payment for health care.

#### **PAN-LOS-045**

##### **Correlation Between Serum and Salivary Lipids and its Degree of Accuracy Among Apparently Healthy Primary School Children Aged 5-15 Years in Sokoto, Nigeria**

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**Aim:** To determine the correlation of serum and salivary lipids and their degree of accuracy as well as their validity.

**Methods:** A total of 200 apparently healthy primary school children aged 5-12 years were recruited using a descriptive and cross-sectional design. The parameters assessed included serum and salivary; total cholesterol (TC), triglycerides (TG), high-density lipoproteins

(HDL), and low-density lipoproteins (LDL). Correlation analysis, Validity test, as well Receiver Operator Curve (ROC) were done

**Results:** There was a positive moderate correlation between serum and salivary lipids ( $p<0.001$ ). Validity test revealed a very good sensitivity testing for TC, TG, and LDL, but a poor sensitivity for HDL. The ROC revealed a positive deflection for all tested lipid panel. For TC, a good area under curve was observed at 0.825 as well as TG at 0.835. A poor area under curve was observed for HDL at 0.304. and lastly LDL showed a fair area under the curve at 0.734.

**Conclusion:** Serum lipids correlates moderately with salivary lipids and the latter can therefore replace the former in screening for lipid profile test and in diagnosing dyslipidaemia in children.

#### **PAN-LOS-056**

##### **Blood Pressure Profiles of Children and Young Adults Living with Diabetes Attending Regular Endocrine Clinic in Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Ebonyi State: A Prospective Study**

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**Introduction:** Hypertension can be a comorbidity as well as a complication of diabetes mellitus. High blood pressure can cause insulin resistance thus, worsening diabetes. This can also lead to heart disease as well as cardiovascular accident in children with diabetes. Regular BP measurements can aid early identification and intervention.

**Aim:** To establish profiles and determine the prevalence of hypertension in children and young adults living with diabetes.

**Methods:** A prospective study involving children living with diabetes being seen at the endocrinology clinic in AEFUTHAI. There were about hundred children attending the clinic but 45 children were regular attendees for the past five months which is the period of the study. An average blood pressure of three consecutive clinic visits was used for the study. Appropriately sized bladder cuff of a sphygmomanometer was used in obtaining the blood pressure with subsequent interpretation with sex and age-appropriate CDC chart. World Health Organization chart was used for participants aged more than 18 years. Blood pressure was categorised

into normal, prehypertension, Stages 1 and 2 hypertension.

**Results:** Study participants comprised of 22 males (48.9%) and 23 females (51.1%) with a M:F ratio of 1:1.04. The mean age was 17.5±4.4 years. The distribution of the participants according to age groups was as follows: 5-10 years (4%), 11-15 years (31.1%), 16-20 years (35.6%), 21-25 years (26.7%), 26-30 years (2%) respectively. Only 10 participants (22.2%) had good glycaemic control. Systolic pre and stage1 hypertension were seen in 20% and 4.4% respectively, while diastolic pre and stage 1 hypertension were seen in 2.2% and 13.3% respectively. The mean duration of diabetes among the participants was 4.04±3.35years. Age was significantly correlated with hypertension.

**Conclusion:** Regular blood pressure monitoring during clinic visits is essential for early detection of hypertension or pre-hypertension in children and young adults living with diabetes mellitus to facilitate timely intervention and prevent complications

#### PAN-LOS-061

##### **Prevalence of Malnutrition Among Children with Down Syndrome Aged 1-18 years Using Composite Index of Anthropometric Failure (CIAF)**

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**Introduction:** Down syndrome (DS) is the most common chromosomal disorder in children. The existence of an extra chromosome-21 affects cognitive function, physical features, health and growth. Early identification of problems in their growth would allow for early interventions to maintain good health and development.

**Aim:** To determine the prevalence of undernutrition among children with Down syndrome and compare the prevalence of undernutrition between male and female children with Down syndrome. **Methods:** A cross-sectional study was carried out on children and adolescents with Down syndrome aged 1 to 18 years from two Nigerian cities – Lagos and Ibadan. The WAZ (Weight for Age), HAZ (Height for Age) and WHZ (Weight for Height) Z scores were plotted using WHO Anthro (children < 5 years) and WHO Anthroplus® (children > 5years) and the prevalence of malnutrition was determined.

**Results:** A total of 102 children living with Down Syndrome were recruited into the study. There were 68 (66.7%) males and 34 (33.3%) females. Overall

prevalence of malnutrition was 41.2%. Prevalence of malnutrition in males was 71.4%, while in females, it was 28.6%. Attendance of a mainstream school (p = 0.01), and family size of greater than 4 children (p = 0.03) contributed to malnutrition.

**Conclusion:** In children with Down syndrome, early identification and management of malnutrition is necessary in order to improve their quality of life, lengthen their life expectancy, achieve their goals in life; and establish them as respected and useful members of the community.

#### PAN-LOS-077

##### **Prevalence and Outcome of Hypoglycaemia Among Children Presenting to the Children Emergency Room of Rivers State University Teaching Hospital**

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**Introduction:** Hypoglycaemia is a common feature seen in children presenting in the paediatric emergency and it contributes to increased morbidity and mortality.

**Aim:** To determine the prevalence of hypoglycaemia among children admitted into the Children's Emergency of Rivers State University Teaching Hospital and to assess its relationship with patient outcome.

**Methods:** In this cross-sectional study, 94 children whose parents gave informed consent were recruited consecutively. Their socio-demographic characteristics, clinical features, diagnosis, management and outcome were recorded. Random blood sugar was determined using *Accu-Chek* Active Blood glucose meter and classified as hypoglycaemia (<3.3mmol/l), normoglycaemia (3.4-8-9mmol/l), hyperglycaemia-prediabetic range (>8.9-11mmol/l), hyperglycaemia-diabetic range (>11mmol/l).

**Results:** Of the 94 recruited children majority were under five years (75; 79.8%) with male-female ratio of 1.24:1. Most common diagnoses were malaria, sepsis, bronchopneumonia, anaemia and meningitis; with an overall mortality rate of 5.3%. The prevalence of hypoglycaemia was 11.7%. Of the 11 children with hypoglycaemia, 4 (44.4%) had their blood glucose level restored after 1 hour, 3 (33.3%) had hypoglycaemia persisting and 2 (22.3%) had hyperglycaemia. Out of the 3 children who had hypoglycaemia persisting, 2 (66.7%) died while the

third (33.3%) was discharged. Mortality rate among those with hypoglycaemia was 27.3%. Hypoglycaemia was found to be significantly associated with a diagnosis of sepsis and gastroenteritis, and patient mortality.

**Conclusion:** Hypoglycaemia is common in children presenting in the emergency room and may be associated with increased mortality. Blood glucose levels should be monitored closely in all sick hospitalized children and hypoglycaemia should be corrected appropriately.

#### **PAN-LOS-115**

##### **Chemotherapy-Induced/exacerbated Diabetes Mellitus in Children with Cancer: A report of Two Cases**

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**Introduction:** Hyperglycaemia is a well-recognized complication of corticosteroids, and L-asparaginase therapy as used as part of the chemotherapy regimen for childhood cancers. Drug-induced hyperglycaemia increases the burden of care and is associated with less favourable outcomes. These two cases in this report are presented to reiterate monitoring for DM even in the absence of classical symptoms of diabetes mellitus.

Case 1: A 4-year-old female with newly diagnosed Acute Lymphoblastic Leukaemia (ALL) was commenced on chemotherapy with oral prednisolone (60mg/m<sup>2</sup>, later tapered to 40mg/m<sup>2</sup>), oral 6-Mercaptopurine (60mg/m<sup>2</sup>), Vincristine (1.5mg/m<sup>2</sup>; on day 2, 9 and 16), Doxorubicin (25mg/m<sup>2</sup> on days 2, 9 and 16), Cyclophosphamide (1,000mg/m<sup>2</sup> on day 29), L-asparaginase (6,000IU/m<sup>2</sup>; on day 3-17 of induction phase), and Cytarabine (75mg/m<sup>2</sup>).

On the 7th day of initiating chemotherapy, urinalysis showed glycosuria (+++) and absent ketonuria. FBG was 7.4mmol/L (ref < 5.6). She had generalized boils and poor IV site wound healing. HbA1c showed diabetic levels 7.7% (>6.5%). Serum C peptide, amylase and lipase were normal. She was managed with subcutaneous basal (glargine) & premeal boluses of regular insulin and was monitored by 8-point BGM with good control. Insulin was tapered off when hypoglycaemic episodes set in. She remained normoglycaemic and will be monitored closely till the next course of chemotherapy.

Case 2: An 11-year-old male was diagnosed with non-Hodgkin lymphoma and chemotherapy was initiated with a regimen consisting of cyclophosphamide, vincristine, oral prednisolone, intrathecal methotrexate and intravenous hydrocortisone 15mg. After eight days on chemotherapy, FBG and RBG were 8.7mmol/L and 9.3mmol/L respectively. Non-typical symptoms of DM were noted. There was positive history of T2DM in both maternal grandparents. Physical examination revealed acanthosis nigricans, BMI: 21.1kg/m<sup>2</sup> (overweight), and BP (130/75mmHg) readings of systolic hypertension and diastolic pre-hypertension. Investigations showed HbA1c of 6.8% (diabetic), increased C-Peptide 34.39ng/ml (0.78-5.19) confirming insulin resistance. Diagnosis of T2DM possibly exacerbated by steroid therapy was made. Treatment was commenced with metformin 500mg nocte with normalization of FBG currently.

**Conclusion:** Children on hyperglycaemia inducing agents must be monitored closely for frank diabetes mellitus.

#### **PAN-LOS-134**

##### **Remission of Type 1 Diabetes mellitus and Associated Factors in Children and Adolescents at the Lagos State University Teaching Hospital**

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**Introduction:** Remission occurs in a proportion of children and adolescents with Type 1 diabetes mellitus (T1DM). During this period, the residual beta cells of the pancreas produce insulin such that exogenous insulin requirements for good glycaemic control are reduced. Remission has been poorly studied in children and adolescents.

**Aim:** To determine the prevalence and pattern of remission of T1DM in children and adolescents. A secondary aim was to determine the factors associated with remission.

**Methods:** The study was a retrospective chart review of patients diagnosed with T1DM between February 2019 and October 2023. Parameters such as age, gender, weight, and blood glucose measurements were extracted from the records. Insulin requirements at initial discharge, and subsequent follow-up visits were also extracted. Remission was defined as insulin requirement less than or equal to 0.5 IU/kg.

**Results:** A total of 28 patients were studied: 14 male (50%). Age ranged between two and 14 years; mean was  $8.89 \pm 3.0$  years. The mean insulin requirement at discharge, six, 12 and 24 months after diagnosis was  $1.23 \pm 0.7$ ,  $0.89 \pm 0.5$ ,  $1.03 \pm 0.5$  and  $1.22 \pm 0.4$  IU/kg respectively. Remission was observed in five (17.9%) patients and was more in male adolescents aged  $\geq 10$  years (23.1%). There was no association between remission status and age groups ( $p = 0.50$ ), or gender ( $p = 0.62$ ).

**Conclusion:** Remission occurred in one out of five patients and was more frequent in male adolescents. Age and gender did not affect remission status.

#### PAN-LOS-137

##### **Hyperthyroidism-induced Cardiovascular Abnormalities in Adolescents seen at a Tertiary Facility in Southern Nigeria: A Case Series Study**

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**Introduction:** Hyperthyroidism, a syndrome resulting from an excess of circulating free thyroxine and triiodothyronine associated with thyroid gland overactivity, has profound effects on all tissues of the body including the heart. Graves' disease is responsible for 70-80% of all cases. Commonly seen cardiovascular abnormalities include arrhythmias, congestive heart failure, mitral/tricuspid regurgitation, pulmonary hypertension and myocardial infarction.

**Aim:** To describe the cardiovascular abnormalities seen in children with hyperthyroidism in our centre highlighting the challenges in management.

**Case Summary:** All 4 cases (EO, ME, RK, OP) were female, ages 12-14 years, had diagnoses of Graves' disease confirmed by investigations. All presented with complaints of neck swelling, palpitations, excessive sweating, restlessness, polyphagia, hyper-defecation and weight loss. OP had poor school performance. All had eye signs, fine tremors, thyromegaly, tachycardia, systolic hypertension and cardiomegaly. RK presented with heart failure. Each received appropriate treatment with antithyroid drugs, propranolol and diuretics when indicated. ECG abnormalities seen were sinus tachycardia, right ventricular enlargement, atrial fibrillation and prolonged QTc. Echocardiographic findings included cardiac chamber enlargement, tricuspid regurgitation, elevated ejection fraction and fractional shortening. A review six months after commencing antithyroid

medications showed significant resolution of clinical and Echocardiographic features in ME who had been compliant with prescribed medications and regular follow-up. The others were non-compliant and had features of worsening cardiac functions.

**Conclusion:** Hyperthyroidism-induced cardiovascular abnormalities occur in adolescents with Graves' disease. The need for appropriate diagnosis, compliance with treatment and frequent follow-up to reduce morbidity and mortality cannot be overemphasized.

#### PAN-LOS-138

##### **Pattern of Paediatric Graves' Disease at Lagos State University Teaching Hospital**

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**Introduction:** Graves' disease is an autoimmune mediated disorder resulting from the production of thyroid receptor autoantibodies which stimulate the thyroid stimulating hormone receptors on the thyroid gland to produce excess thyroid hormones. It is the commonest cause of hyperthyroidism in children; and occurs mostly in adolescence.

**Aim:** To describe the pattern and clinical features of Graves' disease in the Paediatric endocrine unit.

**Methods:** The study was a retrospective cross-sectional study. Data was extracted from the health records of patients seen in the Paediatric endocrinology clinic between March 2017 and November 2023. Extracted Data included age, gender, weight at presentation, and presenting clinical features.

**Results:** A total of 76 cases of thyroid disorders; out of which 16 (21.0%) were diagnosed with Graves' disease were evaluated within the study period. There was one (6.3%) case of neonatal Graves' disease. Age at presentation ranged from 0.05 to 12 years, with a mean age of  $9 \pm 2.5$  years. The female to male ratio was 2.4:1. Clinical features included goitre (87.5%), exophthalmos (75%), progressive weight loss (69%), palpitations (31.2%), and heat intolerance (19%). The interval between onset of symptoms and presentation ranged between one and six months.

**Conclusion:** Females were more affected than males as is the case with many autoimmune disorders. Mean age at diagnosis in our study was lower than many previously reported studies. The commonest clinical features were goitre, exophthalmos and weight loss.

**PAN-LOS-225**

**Diabetes Distress in Adolescents with Type-1 Diabetes mellitus at the University College Hospital, Ibadan**

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**Introduction:** The increase in the prevalence of Type 1 Diabetes Mellitus (T1DM) in adolescents has become a global public health issue. T1DM and its management can result in physical, emotional and psychological distress on the patient, caregivers/parents and the healthcare team. Prompt identification and intervention of distress areas are therefore of utmost importance.

**Aim:** This study was conducted to evaluate the prevalence of distress and associated factors amongst adolescents living with T1DM.

**Methods:** This was a cross sectional study on adolescents with T1DM attending the Paediatric endocrinology clinic at University College Hospital, Ibadan. The Diabetes Distress Scale (DDS) was used to assess the level of distress over the preceding month. The DDS is a 17-point questionnaire which has a Likert system scoring from 1 which is 'Not a problem' to 6 'a very serious problem'. These questions are further sub-classed into: Emotional Burden, Regimen-related, Physician-related distress and Interpersonal distress. A mean score of > 3 is regarded as distress requiring clinical attention.

**Results:** Adolescents constituted 64.5% of the total number of patients with T1DM. The male to female ratio was 1.2 :1. The mean age was 15.33+ 4.34 years. Interpersonal distress was experienced by 25% of adolescents and 20% of patients suffered from emotional burden. The T1DM regimen caused distress in 15% of adolescents and 10% reported physician related distress.

**Conclusion:** Diabetes distress is an important occurrence in adolescents with T1DM. Early detection and effective management are necessary for better outcome in T1DM.

**GASTROENTEROLOGY**

**PAN-LOS-048**

**Complicated Paediatric Inflammatory Bowel Disease in South-western Nigeria: Experience and Challenges in Management**

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**Introduction:** Paediatric inflammatory bowel disease (IBD) though rare, is now being reported in African children and when it occurs it may run a more severe clinical course compared with adults.

**Aim:** To document the clinical presentation of complicated Paediatric IBD and highlight the challenges in the management of these children in a low-resource setting like Nigeria.

**Methods:** This was a retrospective study of complicated paediatric IBD cases managed over a 5-year period (2018-2023) at the Lagos University Teaching Hospital (LUTH). Data retrieved from the clinical records included clinical features, laboratory/endoscopic findings and histopathologic diagnosis. Treatment modalities and the challenges in management were documented.

**Results:** Four children aged between 4-14 years with intra, and extra-intestinal complications were seen and all of them presented with recurrent abdominal pain, diarrhoea and weight loss. Other symptoms seen were bloody diarrhoea (75%), passage of stools per vagina (25%), joint pain/swelling (50%), and purulent anal discharge (25%). Two children had Ulcerative colitis (UC), one of which also had an overlap syndrome (hepatitis and sclerosing cholangitis). The other patient had a rectovaginal fistula and arthritis. Two children had Crohn's disease (CD) complicated with perianal fistula and arthritis respectively. Biologic therapy (IV Infliximab) was instituted for the children with the fistulae and the strictures while oral 5-aminosalicylates, methotrexate and steroids were used in the other children.

**Conclusion:** There is a need for a high index of suspicion for IBD in children who present with a triad of recurrent abdominal pain, diarrhoea and weight loss in our environment. The importance of early diagnosis and prompt treatment to prevent complications cannot be overemphasized in our setting where there is limited access to appropriate and effective therapy.

**PAN-LOS-093**

**Screening for Liver Fibrosis in Children and Adolescents with Sickle Cell Disease with the Use of the APRI And FIB4 Score in a Resource-limited Setting: A Comparative Study**

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**Introduction:** Liver fibrosis in children with sickle cell anaemia (SCA) though rarely documented, may be reversible if identified early with the use of non-invasive tests (NITs), such as aspartate aminotransferase to platelet ratio index (APRI) and fibrosis index (FIB-4).

**Aim:** To determine the prevalence of liver fibrosis in children with (SCA) using APRI and FIB-4 scores and document any association of fibrosis with viral hepatitis status.

**Methods:** This cross-sectional study involved children with SCA in the steady state aged 5 years and above. Children were consecutively recruited from the haematology clinic of the paediatrics department of the Lagos University Teaching Hospital over a 6-month period. Full blood count, Liver function test, viral markers and retroviral status were documented for each study participant.

**Results:** Two hundred and ten children were enrolled and 5(2.4%) and 8(3.8%) of the children had APRI and Fib-4 scores suggestive of advanced fibrosis respectively. Nine (4.3%) had scores in the cirrhotic range according to APRI but the fib-4 score only identified 2(%) children in this range. Both scores were significantly related to the BMI and the use of hydroxyurea. ( $p < 0.05$ ) The scores were unrelated to age, gender, or viral hepatitis status.

**Conclusions:** The FIB-4 and APRI scores are useful in screening for fibrosis in children with SCA in low to middle-income countries where techniques such as fibroscan and liver biopsy are not readily available. The need for larger studies to further validate these scores cannot be overemphasized.

#### PAN-LOS-159

##### **Infant Feeding Practices and Associated Factors of Mothers Presenting to Infant Welfare Clinic of Nnamdi Azikiwe University Teaching Hospital Nnewi**

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**Introduction:** Adequate nutrition is essential for optimal growth and development of children. Periodic evaluation of feeding practices of mothers is helpful in assessing the impact of baby friendly programs. A

number of studies have assessed the impact of feeding recommendations on infant feeding in Nigeria but these were mainly cross-sectional, with their attendant limitations.

**Aim:** To describe the feeding practices of mothers of infants presenting to the infant welfare clinic of Nnamdi Azikiwe University Teaching Hospital from the first week to the sixth month of life and to identify the factors which influenced them.

**Methods:** Three hundred and eighty-five apparently healthy infants were recruited. Sociodemographic data and feeding practices of mothers were obtained on each immunization visit.

**Results:** Exclusive breastfeeding was the most prevalent feeding practice with rates of 69% and 56% observed at 6 weeks and 6 months respectively, while partial breastfeeding rate was 31% and 44% at 6 weeks and 6 months. Socioeconomic status and having a paid maternity leave were significantly associated with the practice of exclusive breastfeeding at 6, 10 and 14 weeks ( $p = 0.017; 0.034; 0.024$  and  $0.021; 0.016; 0.014$  respectively).

**Conclusion:** This study showed that there had been marked improvement in previously reported exclusive breastfeeding rate in the study site. More efforts should be made in promoting exclusive breastfeeding in the study site until the recommended exclusive breastfeeding target of 90% is achieved.

#### PAN-LOS-177

##### **Effect of Health Education on Knowledge of Home Management of Diarrhoea Among Caregivers of Under-fives Presenting at the Two Tertiary Hospitals in Yenagoa LGA, Bayelsa**

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**Introduction:** Delay in prompt home management of diarrhoea has been attributed to the low level of knowledge of caregivers on the use of appropriate therapy, thus the need to institute health education to achieve appropriate home management.

**Aim:** To determine the impact of health education on the level of knowledge of home management of diarrhoea among caregivers of under-fives in Yenagoa Local Government Area, Bayelsa State.

**Methods:** It was a quasi-experimental study which involved intervention and control groups. Two hundred and twenty eligible participants were

recruited for the study. At first contact, both groups were assessed on their background knowledge of diarrhoea and its home management. The intervention group was thereafter trained on the different aspects of diarrhoea and home management using a training guide. At second contact, the knowledge of participants of both groups was re-assessed.

**Results:** Two hundred and twenty caregivers were assessed; 110 in each of the two groups. At first contact, the knowledge of home-management of diarrhoea among the participants on first contact was poor in both groups. However, there was a significant improvement in the knowledge of home management of diarrhoea among those in the intervention group compared to the control group ( $p = 0.001$ ), at second contact.

**Conclusion:** Health education was effective in increasing the knowledge of home management of diarrhoea, regardless of social class.

#### **PAN-LOS-223**

##### **Multiple Food Allergy presenting as Heiner Syndrome in a Nigerian Infant – Case Report**

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**Introduction:** Heiner syndrome (HS) is a rare non-IgE mediated hypersensitivity to cow's milk or multiple food allergy characterized by chronic respiratory symptoms with chest X-ray infiltrates and resolution of these symptoms on dietary elimination of cow's milk. It commonly occurs between the ages of 1 month to 48 months of age. Affected individuals typically present with respiratory symptoms but may also have gastrointestinal symptoms, poor growth, iron deficiency anaemia, and pulmonary hemosiderosis. This wide variability of presentations and its ability to mimic more common diseases makes diagnosis of HS difficult. Its diagnosis therefore requires a high index of suspicion and adequate knowledge of its various manifestations.

**Case Summary:** We present the case of a 9-month-old male with history of cough, fever, difficult breathing and wheezing who was initially managed for bronchial asthma and bronchopneumonia with no improvement of symptoms. With subsequent review, the history of allergy to cow's milk, eggs, and crayfish with positive maternal history of food allergy was obtained. Elimination of offending foods led to

resolution of symptoms and a rechallenge led to reappearance of symptoms.

**Conclusion:** This case report highlights the need for a high index of suspicion of HS in children who fail to respond to appropriate therapy for respiratory symptoms and have a positive history of food allergy.

#### **PAN-LOS-232**

##### **Helicobacter pylori Infection in Children with Recurrent Abdominal Pain**

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**Introduction:** Helicobacter pylori (*H. pylori*) is a gram-negative bacterium which is predominantly acquired in childhood and has been implicated as a cause of recurrent abdominal pain in children. Understanding its epidemiology in children is important in prevention and control of the infection.

**Aims:** To estimate the prevalence and associated factors of *H. pylori* infection in children presenting with recurrent abdominal pain to the Paediatric Out-Patient Clinic of University of Calabar Teaching Hospital, Nigeria.

**Methods:** A total of 169 children aged three to 18 years were recruited from October 2021 to November 2022 into the study. A pre-tested interviewer-administered questionnaire was used to collect data on sociodemographic variables and clinical features. *H. pylori* infection status was determined using the faecal antigen test with manufacturer-reported specificity, sensitivity, and accuracy of 93.0%, 96.8% and 94.6% respectively.

**Results:** The prevalence of *H. pylori* infection in the study population was 27.2% and was significantly higher among children who had diarrhoea in the preceding year (40.7%) ( $p = 0.007$ ). At the univariate level, factors significantly associated with *H. pylori* infection were mother's education ( $p = 0.002$ ), father's education ( $p = 0.02$ ), social class ( $p = 0.002$ ), place of residence ( $p = 0.009$ ), number of rooms in the home ( $p = 0.001$ ), domestic waste disposal method ( $p = <0.001$ ), and source of drinking water at school ( $p = 0.038$ ). At the multivariate level, living in a house with less than or three rooms (AOR: 0.38, 95% CI: 0.16 - 0.89), disposal of household waste in the bush (AOR: 0.18, 95% CI: 0.06 - 0.50), and residence in urban areas (AOR: 4.64, 95% CI: 1.47 - 14.65) were independent predictors of *H. pylori* infection.



**Conclusion:** The prevalence of *H. pylori* infection among children presenting with recurrent abdominal pain was high. This high prevalence was related to low socioeconomic class, household overcrowding, low levels of parental education, and poor environment.

#### GENERAL PAEDIATRICS

##### PAN-LOS-018

#### **Demographic Pattern of Brought-in-Dead Patients in a Nigerian Tertiary Paediatric Emergency Center and the Relevance of the National Health Insurance Scheme**

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**Background:** Brought-in-Dead (BID) otherwise known as Dead-on-arrival (DOA) patients contribute up to 2.5% of total presentations in the Children Emergency Department and reflect the impact of socioeconomic factors on health and survival.

**Aim:** To evaluate the demographics of BID children in the Paediatric Emergency Department of a tertiary hospital in a rural setting of Nigeria, including their access to health insurance schemes.

**Methods:** It was a descriptive, retrospective study conducted in the Children Emergency Room (CHER) of Irrua Specialist Teaching Hospital (ISTH) Edo State. Information from the files of BID cases presenting to CHERISTH between Jan 2019 and August 2023 were analysed. Probable diagnoses were made by verbal autopsy adapted from the 2022 WHO Verbal Autopsy form.

**Results:** A total of 4539 children were admitted into CHER between January 2019 to August 2023 while 61 BID cases were documented, giving an incidence rate of 1.34% of total admissions, and an average of 1.01 BID cases per month. Their ages ranged between 12 hours to 14 years with a median (IQR) age of 13 (8 - 60) months and a male: female ratio of 1.07: 1. Forty (70.18%) were under-fives. The most common symptom was fever. Sepsis / severe malaria and acute encephalitis syndrome (AES) were the most prevalent presumed causes of death. None of them presented records of health insurance. Prior to arrival, 48.57% had not sought medical care in any healthcare facility, and all of those who did have obtained treatment by out-of-pocket payment.

**Conclusion:** This study identified most of the BIDs as preventable deaths which are affected by prehospital factors within the control of relevant stakeholders. Health insurance was also identified as a vital tool for limiting BIDs in children.

##### PAN-LOS-031

#### **Maternal Experiences and Midwives Perspectives on Breastfeeding Support in a General Hospital Setting: A Qualitative Study**

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**Introduction:** Breastfeeding is broadly acknowledged as the best nutritional technique for newborns, providing abundant health benefits for mothers and babies. However, breastfeeding rates remain below average in many countries. Breastfeeding support plays a crucial role in promoting successful breastfeeding experiences, and midwives are key providers of this support.

**Aim:** To explore the experiences of postnatal mothers receiving breastfeeding support from midwives and the perceptions of midwives while providing support in General Hospital Ekpan, Delta State, Nigeria.

**Methods:** A phenomenological research design was employed to delve into the subjective experiences and meanings ascribed to breastfeeding support. Data were collected through focus group discussions with postnatal mothers and key informant interviews with nurse-midwives. Thematic analysis was conducted using ATLAS software version 23 to identify emerging themes and sub-themes.

**Results:** The findings revealed that some mothers had positive experiences while few had negative experiences of breastfeeding support received from the midwives, mothers recognized the importance of breastfeeding and understood its duration and benefits. They emphasized the significance of colostrum and highlighted breastfeeding as lasting about one year or more. The midwives clearly understood breastfeeding recommendations and perceived themselves as educators, providing valuable tips and techniques to mothers. However, the perceptions of midwives in this study were slightly positive due to the lack of modernised devices to support mothers and the attitude of some mothers towards the implementation of the education they received, the midwives also faced challenges related to staff shortages, cultural beliefs, and societal influences.

**Conclusion:** This study shed light on postnatal mothers' experiences and midwives' perspectives regarding breastfeeding support. The findings underline the importance of comprehensive support to promote successful breastfeeding practices.

**PAN-LOS-062**

**Food allergy to Fish in an 8-year-old boy at UNIOSUN Teaching Hospital, Osogbo**

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**Introduction:** Childhood food allergic diseases is a relatively understudied field in Nigeria. Misdiagnosis by the unaware or informed can result in prolonged morbidity, complications or death.

**Aim:** We report the case of allergic reaction to fish ingestion in an 8-year-old boy with several previous missed opportunities to diagnosis, with a view to increase disease awareness among health workers.

**Methods:** An 8-year-old boy presented with generalized itchy body rashes of 3 days duration following ingestion of crayfish. In addition, he presented with peri-umbilical colicky non-radiating pain. There was no difficulty with breathing, noisy breathing or chest fainting. Also, there was no palpitation on fainting. Similar symptoms were also recorded on several occasions in the last three years following fish ingestion. Examination revealed a conscious boy with a weight and temperature of 27kg and 36.8°C respectively. He was not pale or cyanosed. Generalized urticaria rashes and swelling of the upper lip was also noticed. Other systemic examination was essentially normal. Assessment of Acute appendicitis was initially made which was changed to food allergy following specialist review. He responded well to treatment with intravenous hydrocortisone and oral loratidine with urticarial rashes and other symptoms slowly and progressively resolving over five days. He was discharged following nutritionist review and on follow up at the allergy out-patient clinic.

**Conclusion:** Food allergies can be missed in emergency and out-patient settings. They can be reasons for recurrent presentation.

**PAN-LOS-086**

**Prevalence and Determinants of Return Visits to the Paediatric Emergency Department in a Tertiary Hospital in Abakaliki Ebonyi State, Nigeria**

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**Introduction:** Return visits statistics have been used as a standard advancement for emergency department care and taken as an approximate of health care quality or access to health care services. There is a noticeable gap in the existing data landscape on return visits to the paediatric emergency department in our clime.

**Aim:** To determine the prevalence and determinants of return visits to the paediatric emergency department, identify populations at risk and proffer solutions to reduce return visits in Ebonyi state.

**Methods:** This is a retrospective study of patients who returned to the Paediatric Emergency Department within seven days of initial discharge, in the last one year, in a Tertiary Centre in Ebonyi State. Patient case files were retrieved, and relevant information were extracted and analysed.

**Results:** The prevalence of return visits was 10.5%. Return visits were more common in under-fives (77.8%), males (72.2%) and those who stayed less than a week on initial admission (88.9%). Determinants of return visits were drug aspiration, parental anxiety, parental refusal of admission on first visit due to financial constraints, follow up and vomiting of drugs. The most common return visits diagnosis was malaria (15.7%), others were sepsis, acute gastroenteritis and tonsillitis. Commonest symptom was fever, most patients had a full blood count done. Majority of children in this study had been evaluated by consultant paediatricians during their first visit.

**Conclusion:** The high prevalence of return visits in this study is an indication of both severity of illness, quality of care and health seeking behaviour of the caregivers in a resource poor centre. This study emphasizes the pressing need for improved strategies in paediatric emergency care.

**PAN-LOS-108**

**Discharge Against Medical Advice at the Benue State University Teaching Hospital Makurdi, North Central Nigeria.**

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**Introduction:** Discharge against medical advice (DAMA) is defined as a patient choosing to leave the

hospital against the advice of the managing physician. It is a common practice encountered by health care providers in resource limited settings. This has become a major problem in health care delivery in Nigeria and in most instances, children are the victims because most of the times they are not the ones taking the decision and may not understand or contribute to it.

**Aim:** To determine the prevalence of DAMA and the associated factors at the Benue State University Teaching Hospital Makurdi, Benue State.

**Methods:** A 5-year (2018-2022) retrospective study was carried out at the Department of Paediatrics, Benue State University Teaching Hospital. The records of children admitted into the department during the period under review and who discharged against medical advice were retrieved and reviewed

**Results:** Out of 3417 admissions, 144 discharged against medical advice giving a prevalence of 4.2%. Majority of the children that DAMA were aged 1-5 years (77.8%), mostly from social class IV and V combined (85%) and had spent about 1-7 days on admission (77.5%). The most common reasons for DAMA were financial constraint (29.1%) and family request (26.6%). Most of the parents/relatives were counselled against DAMA (97%), mostly by a nurse (68.9%), DAMA was signed mostly by fathers (61.8%) and only 15.3% returned for follow-up.

**Conclusion:** Financial constraint remains the most important reason why children are discharged against medical advice.

#### PAN-LOS 124

##### **Vitiligo in Children- An Uncommon and Challenging Skin Disorder**

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**Introduction:** The exact aetiology remains unclear but autoimmune, genetic, autocytoxic and neural theories have been postulated.

**Aim:** To determine the prevalence of vitiligo among children receiving care in UPTH as well as the clinical profile and treatment outcome of affected children.

**Methods:** A prospective longitudinal study design was used. Consecutive children diagnosed with vitiligo at the Paediatric Dermatology clinic in UPTH and who had been on follow up for a minimum period of 3 months were recruited and followed up for a minimum period of 6 months.

**Results:** Out of the 428 seen within the study period, 21 had vitiligo giving a prevalence of 4.9%. The mean age of the study subjects was 8.55±2.61 years and the male to female ratio was 0.9:1. Segmental vitiligo was the predominant clinical subtype encountered (71%). The predominant body regions affected included the face (62%), trunk (19%) and lower limbs (9.5%). Treatments given included topical corticosteroids (100%), oral antioxidant therapy (90.5%), topical tacrolimus (38%), oral corticosteroid (14.3%). All children with lesions on sun exposed areas also received sunscreen with SPF 30+. With regards to treatment outcome after 6 months of therapy, 7 children (33.3%) achieved varying degrees of re-pigmentation, 9 (42.9%) showed no re-pigmentation while 5 children (23.8%) were lost to follow-up care.

**Conclusion:** Vitiligo accounted for 4.9% of the skin disorders seen in our practice with segmental subtype being predominant. The face was the most affected body region. Majority of the children showed poor response after 6months of therapy

#### PAN-LOS-125

##### **Pattern of Paediatric Surgical Emergencies at the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria**

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**Introduction:** Paediatric surgical emergencies constitute a significant cause of morbidity and mortality in our environment. The Children emergency ward (CHEW) often serves as the first port of call for these patients and also provides opportunity for initial medical stabilization before surgery. A knowledge of the pattern of paediatric surgical emergencies will help improve initial care which could impact positively on eventual outcome.

**Aim:** To describe the prevalence and pattern of paediatric surgical emergencies among children admitted into the CHEW at the University of Port Harcourt Teaching Hospital.

**Methods:** This was a retrospective review of the medical records of children with paediatric surgical emergencies admitted over an 18-month period (May 2022-October 2023). Demographic and clinical data were obtained using a proforma.

**Results:** A total of 84 paediatric surgical emergencies were seen within the period under review accounting for 4% of the 2101 cases admitted in same period.

Acute surgical abdomen (79.8%) accounted for majority of the surgical emergencies. The three most common surgical emergencies encountered were intussusception (27.4%), appendicitis (25%), and obstructed inguinoscrotal hernia. The prevalence of surgical emergencies showed no association with sex and age. Intussusception was significantly more common in infants ( $\chi^2 = 4.7531$ ,  $p = 0.0294$ ).

**Conclusion:** Intussusception and appendicitis were the most common paediatric surgical emergencies in our setting. This knowledge will help the emergency room team to be better prepared for the provision of pre-operative care which could positively impact on surgical outcome.

#### **PAN-LOS-127**

##### **Intussusception in an Eleven-Year-Old Male Child** Adesina AO

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**Introduction:** Intussusception is a condition in which one segment of intestine invaginates into the adjoining intestinal lumen causing bowel obstruction.[1] It occurs commonly between the ages of 4-36 months [2]; may appear at any age, more frequently in boys. (M: F 3:1) The incidence is 1-3cases/1,000,000 population/year. We report the case of an 11-year-old male with Intussusception.

**Aim:** To alert physicians on the possibility of intussusception in early adolescence.

**Case Summary:** An eleven-year-old male child presented with four-day history of abdominal pain, abdominal distention, bilious vomiting, inability to pass stool, and fever. On examination, he had a uniformly distended abdomen, generalized tenderness, worse around the right iliac fossa, hypoactive bowel sounds, organs difficult to palpate. Pulse rate was 96 beats/minute and the respiratory rate was 24 cycles/minute. A diagnosis of Acute abdomen secondary to a perforated appendix was made. The child was referred to the Paediatric-Surgical unit. He had emergency exploratory laparotomy within 24 hours of admission. The intra-operative findings included ileoileal intussusception, proximal dilated bowel loops, distal collapsed bowel, intraluminal pedunculated polyp on the mesenteric wall of the jejunum, 40 cm from duodenojejunal junction. He had a resection of the ileal intussusception, ileo-ileal end-to-end anastomosis and jejunal polypectomy. The post-operative diagnosis was acute intestinal

obstruction secondary to ileo-ileal (secondary) intussusception.

**Conclusion:** Intussusception is possible in early adolescent, with an excellent prognosis if diagnosed and treated early; otherwise, severe complications and death may occur.

#### **PAN-LOS-130**

##### **Hospital Ibuprofen Administration Among Patients Attending the Paediatric Outpatient Clinic in the Rivers State University Teaching Hospital**

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**Introduction:** Ibuprofen is a nonsteroidal anti-inflammatory drug often procured over the counter for relieve of pain, fever, and inflammation. Its abuse can cause ulcers, gastrointestinal bleeding and kidney injury.

**Aim:** To determine the prevalence of pre-hospital use of ibuprofen.

**Methods:** An observational study involving 401 caregiver/child pair seen at the Paediatric clinic of the RSUTH over six months. Data on demography, clinical symptoms as well as history of pre-hospital administration of ibuprofen were obtained using a semi-structured questionnaire.

**Results:** A total of 401 caregivers/child pairs participated in the research with male predominance. The average age of the children was  $28.26 \pm 3.80$  months and most parents had tertiary education. Thirty-nine children (9.7%) received ibuprofen before coming to the hospital; the youngest being three months and the oldest ten years old. Reasons for ibuprofen use were fever, cough and body pain in descending order. Syrup formulation was preferred and mostly given twice daily. The commonest reason for formulation choice was the age of the child. Most parents gave medication based on past experience. More than half of the parents said there was improvement in child's condition following ibuprofen administration and 20% gave ibuprofen for more than seven days before presentation at the hospital. About 83% of parents gave appropriate dose while 13% gave overdose of ibuprofen to their children.

**Conclusion:** Although the prevalence of pre-hospital ibuprofen use was less than 10%, there was high level of ibuprofen abuse thus the importance of health

education on the proper use of ibuprofen cannot be overemphasized.

**PAN-LOS-156**

**Psychosocial History: Key to Identifying Uncontrolled Smartphone Use-induced Inadequate Sleep among Adolescents in Ibadan**

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**Introduction:** Adolescent sleep is being threatened by many factors including increase in smart phone possession and online activities. This case series showed how psychosocial history guided the diagnosis of inadequate sleep from uncontrolled smart phone use as the primary cause of different medical symptoms in three adolescents.

**Case Summaries:** Three adolescents presented with recurrent headaches and red eye, recurrent respiratory and gastrointestinal illness with daytime drowsiness and recurrent headaches, respectively. They all had personal smart phones with unrestricted access and use. "Home activities" in the psychosocial history tool (HEADSSS) showed excessive use of the pattern of smart phone by each of the adolescent. Physical examinations were normal. The primary diagnosis for each was inadequate sleep from excessive smart phone use. Each had counselling about responsible phone use and importance of good sleep hygiene. Also, controlled phone use (which consisted of limiting the time that the adolescent spends with the phone and keeping it away at a designated time of the evening) was commenced. All the symptoms experienced by the adolescents abated within a three-month period.

**Conclusion:** Psychosocial history is essential for holistic adolescent medical assessment and it helped to identify excessive smart phone use with resultant inadequate sleep in these adolescents. In line with standard practice, psychosocial history should be routine in adolescent health management in Nigeria

**PAN-LOS-176**

**Using the VARK Questionnaire to Assess the Learning Styles of Undergraduate Clinical Medical Students in a Nigerian University**

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**Introduction:** The learning style of an individual is the way in which information is processed, absorbed and retained by that individual. Both the teacher and

student need to know the different learning styles so that different modalities of teaching can be employed so as to aid learning and understanding. The VARK questionnaire designed by Fleming categorizes learners as visual, aural/audio, reading and kinesthetic using individual's preferred senses and perceptions. It also identifies unimodal and multimodal learners.

**Aim:** To assess the learning styles of undergraduate clinical students of Bayero University, Kano, Nigeria

**Methods:** A descriptive cross-sectional study was carried out using VARK questionnaire version 7.8 after informed consent was obtained. Two hundred and seven students participated in the study.

**Results:** A total of 207 students participated and 169 (81.64%) were unimodal learners and 38 (18.36%) were multimodal learners. Among the unimodal learners, 7.8% were visual, 25.2% were aural, 16.2% were reading and 52.1% were kinesthetic. Multimodal learners included those with bimodal, trimodal and tetra model learning styles. There was no significant association between students' gender and them being unimodal or multimodal learners ( $X^2 = 2.8545$ ,  $p = 0.582$ ) likewise no significant association was observed between the students' level of study and their preferred learning style ( $X^2 = 1.5143$ ,  $p = 0.469$ ).

**Conclusion:** The preferred learning styles of the undergraduate clinical medical students was unimodal and most of them were kinesthetic. Teachers should assess the learning styles of their students/learners so that appropriate styles of teaching are employed.

**PAN-LOS-194**

**Prevalence and Pattern of Paediatric Hypoglycaemia Presentation at the University of Port Harcourt Teaching Hospital, Rivers State, Nigeria**

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**Introduction:** Hypoglycaemia commonly complicates critical childhood illnesses among paediatric patients in the acute care setting. It is a significant predictor of death in children with severe acute malnutrition, diarrhoea and severe malaria.

**Aim:** To describe the prevalence and pattern of paediatric hypoglycaemia among children that presented to the children emergency ward (CHEW) of the University of Port Harcourt Teaching Hospital (UPTH), Rivers State.

**Methods:** This was a retrospective, descriptive study. The admission register at the CHEW of UPTH was used to review the records of children aged two months to 18 years who presented with hypoglycaemia, over a period of 18 months (May 2022- October 2023).

**Results:** Of the 2,101 children admitted, 1,111 (52.9%) were males, 990 (47.1%) were females (M:F=1:1). The mean age of subjects who presented with hypoglycaemia was 2.47±3.70 years. Hypoglycaemia was seen among 43 children, giving a prevalence of 2.04%. There was no association between sex and prevalence of hypoglycaemia among the subjects ( $X^2 = 0.287$ ,  $p = 0.59$ ). Hypoglycaemia was commoner among children with sepsis (34.9%), severe malnutrition (25.6%), severe malaria (11.6%) and diarrhoea (11.6%). Acute abdomen (4.6%), chronic liver disease (2.3%) and cleft palate (2.3%) were the least contributors.

**Conclusion:** Sepsis, severe malnutrition and severe malaria still remain significant contributors to hypoglycaemia among acute/chronically ill children who present to the emergency ward.

#### **PAN-LOS-199**

##### **Mortality Pattern in Paediatrics wards of University of Nigeria Teaching Hospital Enugu as a Learning Tool: A Centre Observational Study**

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**Introduction:** Mortality reviews is one of the quality controls in improvement of health system delivery.

**Aim:** To determine the pattern and factors that influence mortality in the Paediatrics Department.

**Methods:** A 15 - year observational, cross-sectional study was carried out on the mortality pattern and autopsy audit in the paediatrics wards of the University of Nigeria Teaching Hospital Enugu from 2006—2022. All mortality recorded during this period were included. The causes were further classified with Global Burden of Disease 2017 classification.

**Results:** There 25,137 admissions with mortality of 1,074 with a mortality rate of 4.3%. There were more males (684; 63.7%). Overall, 417 (41.2%) of the deaths occurred in the neonatal period. Based on the first level of Global burden of disease, non-communicable causes had the highest mortality at 784 (73.0). In logistic regression, the following factors

were significantly associated with mortality; short duration of stay and male gender.

**Conclusion:** Surprisingly mortality from non-infectious causes is increasing. Is there a transition? There would be a need for policy on the prevention of these non-infectious diseases of childhood.

#### **PAN-LOS-200**

##### **Functional Outcomes of PICU Survivors at the University College Hospital, Ibadan, Nigeria**

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**Introduction:** Functional status scale (FSS) is a tool which assesses the six domains of functioning. Advances in paediatric critical care medicine have resulted an increasing number of survivors of critical illness. In high-income countries, PICU survivors have been reported to have limitations in function however limited data are available from low and middle-income countries like Nigeria.

**Aim:** To describe the functional status of patients discharged from the PICU of the University College Hospital, Ibadan.

**Methods:** A retrospective study was conducted on patients discharged alive from the PICU from November 2022 to October 2023. Functional status was evaluated using the FSS on the day of discharge from PICU and FSS score was categorized as normal function to mild dysfunction (6–9), moderate to severe dysfunction (10–20), and very severe dysfunction (21–30).

**Results:** Nineteen subjects with mean age of 6.5 ± 4.7 years were studied, and 57.9% (11) were female. Thirteen were previously fully functional. Of the 13 previously well, severe pneumonia (30.8%), sickle cell disease with acute chest syndrome (15.4%) and traumatic brain injury (15.4%) were the most common diagnoses. The mean FSS on discharge was 10.8 ± 3.7, and 53.8% had normal function to mild dysfunction while 46.2% had moderate to severe dysfunction. Shock was associated with moderate to severe dysfunction while invasive mechanical ventilation was not.

**Conclusion:** The incidence of functional dysfunction in this set of PICU survivors is high, highlighting the need for more multicentre studies as well as longitudinal research in this area.

**PAN-LOS-202**

**Analysis of Admissions into Paediatric Emergency Division and Missed Opportunity in Intensive Care Services in a Tertiary Hospital in a Resource-poor Setting in Southern Nigeria**

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**Introduction:** The essence of seeking emergency medical services is to be provided with essential medical care aimed at preventing complications and possibly death that may ensue from the illness. Medical practitioners and indeed health care providers should be curious to look at their duty of care, standard of care and analyse it with the outcome of patients seen over a period of time.

**Aim:** To examine the outcome in all children that presented at the Children emergency room for medical services.

**Methods:** This was a prospective cross-sectional study conducted at the Children Emergency complex of University of Benin Teaching Hospital (UBTH) from January 2018 to December 2019 on all patients that presented at the emergency complex.

**Results:** A total of 10,180 children presented to the children's emergency room and 2,914 children (28.6% admission rate) were admitted. There was a total of 144 mortalities (4.94%) in the total admissions. Infectious diseases accounted for majority of the deaths. The under-5s made up 61.1% of deaths reported with slight male preponderance of 1.3:1.1. Majority of the deaths occurred within 12 hours of presentation. Of the 144 mortalities recorded, 140 (97.2%) required intensive care while 4 did not qualify for PICU care. Of the 140 children who qualified for PICU care, 17 (12%) were admitted into the ICU for further care and only 2 (12.3%) survived and were discharged home.

**Conclusion:** Education on health promotion, disease prevention and treatment program on common childhood diseases is key in addressing the challenges.

**PAN-LOS-204**

**Uptake of Paediatrics Post-mortem in University of Nigeria Teaching Hospital Enugu: A Centre Observational Study**

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**Introduction:** Post-mortem as a criterion for cause of death analysis has a main role in medical quality

control audit. Its use encompasses determination of cause(s) of death or pathological processes involved and also guide genetic counselling. However, its uptake rates are on the downward trend nationally and internationally.

**Aim:** To determine the pattern and factors that influenced post-mortem in University of Nigeria Teaching Hospital, Enugu between 2006 and 2022.

**Methods:** It was a 15 - year observational, cross-sectional study. All post-mortem recorded during this period were included. Information extracted from the mortality reports were recorded in the proforma.

**Result:** There were 25,137 admissions with 1, 074 mortalities with a mortality rate of 4.3%. This was highest in 2006 and 2008 and now on the downward trend. Mortality was higher in the neonatal period (31.0%). There were more males (53.3%) and post-mortem was only done in 37 (18.6%). Possible factors associated with this low uptake were not easily ascertained. However, cultural bias and logistics of post-mortem assessment were likely to be involved.

**Conclusion:** The uptake of paediatric post-mortem examination is low and innovative ways of overcoming its barriers would be required to increase its uptake rate.

**PAN-LOS-240**

**Spectrum of Childhood Diseases in the Emergency Paediatrics Unit of a Secondary Facility: An In-depth Analysis**

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This study investigated the diverse spectrum of childhood diseases encountered in the Emergency Paediatrics Unit of a secondary care hospital. Through a retrospective analysis of clinical records of the 1348 patients admitted from January 2022 to December 2022, we delineate the prevalence, clinical presentations, monthly trend and outcomes of paediatric patients presenting to the emergency department. Commonly observed conditions include sepsis, malaria, respiratory tract infections, and sickle cell disease. The first three being the highest contributors to mortality. Notably, our findings underscored the resurgence of vaccine preventable diseases especially measles, the significance of infectious diseases, emphasizing the need for effective

preventive measures and prompt diagnosis and treatment. Infectious diseases remained the chief complaints, guiding healthcare providers in the initial assessment and management of paediatric emergencies. Additionally, the study delves into demographic factors influencing disease patterns, such as age, gender, and socio-economic status. Understanding these associations enhances our ability to tailor healthcare services to the unique needs of the paediatric population, contributing to improved outcomes and resource utilization. This research serves as a valuable resource for healthcare practitioners and policymakers, offering insights into the dynamic landscape of childhood diseases in emergency settings. The identification of prevalent conditions and associated factors provides a basis for refining emergency care protocols, optimizing triage strategies, and ultimately enhancing the quality of paediatric emergency healthcare.

## HAEMATOLOGY & ONCOLOGY

### PAN-LOS-010

#### **Incidence, Treatment and Outcomes of Childhood Cancers in Calabar, Nigeria: A 10-Year Review**

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**Introduction:** Cancers invade and destroy body parts leading to death, if untreated. Paediatric cancer burden is rising especially in resource-poor regions.

**Aim:** was to determine incidence of childhood cancer types, basis of diagnosis, therapy received and outcomes.

**Methods:** This retrospective study of children aged 0–17 years, diagnosed and treated of cancer from January 2013 through December 2022, obtained biodata, diagnoses, initial disease stage, diagnostic investigation results and treatments from medical records. Other outcomes assessed were relapse, abandonment of therapy and death.

**Results:** The 229 patients had males (57.6%), age-group 0-4 years (51.5%) and mean (SD) annual cancer crude incidence rate (CIR) of 0.29 (0.09) per 100,000 children. Retinoblastoma increased from 0.16 per 100,000 children in 2013 to 0.27 per 100,000 children in 2022 and had the highest average age-standardized

incidence rate (0.11 per 100,000 children). Other malignancies had annual CIR between 0.01 and 0.08 per 100,000 children. Commonest method of diagnosis was primary site histology (39.7%). Majority had late-stage disease (66.4%), incomplete chemotherapy (62.5%), no surgery (54.5%), no radiotherapy (99.1%). The outcome of treatment includes relapse (20.5%), abandonment of treatment (42.8%), discharge against medical advice (23.6%) and death (29.7%). There were more male than female deaths (1.5: 1). The crude mortality rate for retinoblastoma increased from 0.01 to 0.12 per 100,000 children while others fluctuated between 0.01 and 0.04 per 100,000 children. The average age-standardized mortality rates were highest in the age group 0–4 years (48.5%).

**Conclusion:** The rate of new cancers particularly retinoblastoma is rising in our locality. Majority present in advanced disease and are not effectively treated resulting in increasing mortality rates. Periodic audit of childhood cancer burden may help relevant stakeholders in determining ways of curbing these worsening paediatric cancer trends.

### PAN-LOS-023

#### **Relationship Between Platelet Indices and Disease Severity in Children with Sickle Cell Anaemia Attending a Tertiary Hospital in Enugu, Nigeria**

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**Introduction:** In sickle cell anaemia (SCA), activated platelets contribute to vaso-occlusion, the hallmark pathologic process leading to complications that worsen SCA disease severity. Hence activation of platelet plays a role in SCA disease severity. Thus, markers of platelet activation such as platelet indices may be related to SCA disease severity (DS).

**Aim:** To determine the relationship between platelet indices (PI) and disease severity in children with SCA at the University of Nigeria Teaching Hospital (UNTH), Enugu.

**Methods:** This was a prospective study in which sixty children with SCA aged 6 months to 18 years were consecutively recruited during vaso-occlusive crises (VOC) and followed up to steady state. Their PI were assessed using Mythic 22 auto-analyser while DS was assessed using a tool adopted from Adegoke and Kuti.



**Results:** Platelet count (PC), plateletcrit (PCT) and mean platelet volume (MPV) were higher in VOC than steady state; the difference in the PCT was statistically significant ( $p = 0.01$ ). The platelet distribution width (PDW) was lower in VOC compared to steady state. In VOC, the individual PI had a weak positive correlation with DS (PC:  $\rho = 0.04$ ,  $p = 0.75$ ; MPV:  $\rho = 0.17$ ,  $p = 0.19$ ; PDW:  $\rho = 0.05$ ,  $p = 0.72$ ; PCT:  $\rho = 0.08$ ,  $p = 0.54$ ). In steady state PC and PCT had a weak positive correlation ( $\rho = 0.10$ ,  $p = 0.45$ ;  $\rho = 0.05$ ,  $p = 0.69$  respectively) while MPV and PDW had a weak negative correlation with DS ( $\rho = -0.17$ ,  $p = 0.19$ ;  $\rho = -0.19$ ,  $p = 0.14$  respectively).

**Conclusion:** Platelet indices are relatively higher in VOC than in steady state. No relationship exists between PI and DS in children with SCA. Therefore, platelet modifying modalities for DS may not be required in SCA.

#### PAN-LOS-026

##### **Knowledge Level, Attitude and Practice of Blood Transfusion among Caregivers Attending the Paediatric Outpatient Clinic in the Rivers State University Teaching Hospital, Nigeria.**

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**Introduction:** Blood transfusion is a vital component of the health care delivery system globally with its' main goal being to save lives.

**Aim:** To ascertain the knowledge level, attitude and practice of blood transfusion in children among caregivers.

**Methods:** A descriptive cross-sectional study in the POPC of the RSUTH.

**Results:** Of 160 respondents, majority were of age groups 30-39 years 87(54.4%) with high socioeconomic class 54 (37.5%). Majority defined blood transfusion correctly (113; 89.4%), knew blood transfusion saves lives (148; 92.5%), that procedure is safe (129; 80.6%) but could have complications (120; 75%). Most knew two complications of blood transfusion (81; 50.6%), that blood is screened before transfusion (139; 86.9%) and that compatibility test is done (139; 86.9%). Correct route of transfusion was known by most respondents (141; 88.1%). The majority (136; 85%) would consent to blood transfusion of their child(ren) and 105 (65.6%) would like to donate blood to be used. Of 68 respondents whom blood transfusion was prescribed for their

child(ren), 55 (80.9%) consented. The commonest reason for not consenting to blood transfusion was religious disapproval (36.4%) while the commonest reason for not donating blood was fear of not having sufficient blood (34%). Majority had good knowledge (44.4%) with the commonest source of information being health workers/hospital. Mothers' and fathers' level of education, fathers' occupation and socioeconomic status were significantly associated with good knowledge.

**Conclusion:** Most respondents had good knowledge, consented to blood transfusion and were willing to donate blood for transfusion. Most information was accessed via health workers/hospital thus increased health education via other means-social media, televisions and radio is therefore advocated.

#### PAN-LOS-035

##### **Pattern of Morbidity Spectrum Among Children with Sickle Cell Disease at Ajeromi, Lagos, Nigeria**

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**Introduction:** Sickle cell disease can affect quality of life if not detected early and managed effectively.

**Methods:** This cross-sectional study was conducted from January 2021 to April 2023 in the paediatric unit of a General hospital in Lagos state, Nigeria. Sickle cell anaemia diagnosis was made via Haemoglobin electrophoresis, either at presentation in the children's emergency room or at a previous visit. All data were extrapolated from the admission records of the subjects for analysis.

**Results:** Of the 137 admissions, 48.2% were school-aged children, 23.4% were pre-schoolers, while toddlers represented 16.1% and adolescents represented 12.4% of the subjects. There was no difference in the age and sex distribution among the children. Children with genitourinary involvement constituted 1.5%, 2.2% were admitted for simple blood transfusion or exchange blood transfusion, 3.6% had cardiovascular system complications, 7.3% presented with respiratory system complications, 9.5% had gastrointestinal system involvement, 11.7% had neurological complications, 31.4% presented with musculoskeletal system complications while 32.8% presented with general systemic involvement such as malaria and bacterial sepsis.

**Conclusion:** School-aged children are most likely to present at paediatric clinics or the paediatric

emergency with symptoms involving the musculoskeletal and neurological systems or with a diagnosis of malaria or sepsis. Widescale studies are needed to identify reasons why school-aged children tend to have a higher probability of presenting in the emergency unit and hence explore ways to reduce this burden and improve the quality of life as these children evolve into adolescence and adulthood.

**PAN-LOS-052**

**AIDS-Related Kaposi Sarcoma in an Adolescent in Lagos: A Case Report**

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**Introduction:** Kaposi Sarcoma (KS), an indolent lymphoangio-proliferative spindle cell tumour is the most common AIDS-defining malignancy causing extensive mucocutaneous disease. The risk of KS increases more than 500 times with HHV-8 and HIV co-infection. This case report highlights a condition which is not very common amongst children with the advent of highly active antiretroviral therapy.

**Case Summary:** GK, a 12-year-old boy living with PAIDS (diagnosed 4 years ago) who presented with complaints of swellings over his body of 15 months, weight loss of 6 months, inability to walk of 1 month and poor appetite. He had a viral load of 1,506,999 copies/mm<sup>3</sup> and CD-4 cell count of 176cells/mm<sup>3</sup> at the commencement of therapy 16 months earlier. He was previously treated for tuberculosis and was not regular on follow-up. He was on Abacavir/Lamivudine/Dolutegravir. He was febrile, pale, had widespread polymorphic yellowish cystic fungating nodular lesions, worse on the lower limbs but also in the mouth. Histologic sections of the skin nodules revealed acanthous, hyperkeratotic epidermis and small, round to elongated vascular channels lined by plump endothelial cells. A diagnosis of AIDS-related Kaposi Sarcoma was made. He was commenced on weekly Doxorubicin, Vincristine and Bleomycin. However, repeat skin biopsy after 13 courses showed active disease, hence thalidomide was commenced 5 months ago.

**Conclusion:** AIDS-related KS has an aggressive course and mortality is usually due to uncontrolled pulmonary haemorrhage. A high index of suspicion is

required as treatment with appropriate chemotherapeutic agents results in disease regression.

**PAN-LOS-059**

**Discharge Against Medical Advice (DAMA) in Children with Cancer in a Tertiary Institution in Southern Nigeria**

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**Introduction:** Discharge against medical advice (DAMA) refers to when a client leaves a healthcare facility against the advice of their doctor; this interruption in care has been shown to be one of the major roadblocks in achieving good therapeutic outcomes in cancer patient care. Projections in Africa suggest that if significant revision of current approaches to cancer care are not established, mortality from cancer is expected to rise to about 1 million deaths per year by 2030. It is therefore expedient that the reasons for DAMA in cancer patients be identified and addressed.

**Aim:** To determine the reasons for DAMA in children with cancer in a tertiary centre in southern Nigeria.

**Methods:** A retrospective study done amongst children admitted into the paediatric oncology unit over a two-year period (2021 – 2023) who were discharged against medical advice and the reasons behind those decisions were sought via review of the folders and phone calls to caregivers.

**Results:** Sixty-seven cases were analysed which had 19.4% (13 cases) of DAMA, the most common cancers involved were acute lymphoblastic leukaemia (38.5%), Nephroblastoma (23.1%) and Retinoblastoma (15.4%). The most common reasons for DAMA were lack of finance and opting for alternative medicine.

**Conclusion:** This study highlights the need to increase avenues that provide financial assistance for cancer patients such as health insurance, indigent funding, fee waivers and to emphasize enlightenment campaigns for better outcomes.

**PAN-LOS-064**

**Febrile Neutropenia in Children with Cancer - A 5 Year Retrospective Cohort Study**

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**Introduction:** Febrile neutropenia is an important cause of morbidity and mortality. It occurs among paediatric cancer patient on treatment, and it is diagnosed by an absolute neutrophil count greater than  $0.5 \times 10/L$ .

**Aim:** To determine the rate of febrile neutropenia in children on cancer treatment in the last 5 years in Lagos University Teaching Hospital (LUTH), the rate of occurrence amongst the various childhood cancers and to determine common microorganisms implicated in febrile neutropenia among cancer patients.

**Methods:** A retrospective cohort study was carried out using data collected from patients record from the last five years.

**Results:** A total of 1958 children were managed for cancer. Acute lymphoblastic leukaemia (ALL) was the commonest tumour (41%), followed by solid tumours (37%), lymphomas (15%), acute myeloid leukaemia 3.7%, 1.9% had brain tumours and 2.7% had a febrile neutropenia. Male patients had higher prevalence of febrile neutropaenia (53.7%) compared to female patient (45.3%) and 79% of patients had a single episode of febrile neutropaenia during the course of treatment. Blood culture was positive in 9.4% of patients. The most isolated organism in blood culture were gram-positive bacteria in 60% of cases.

**Conclusion:** The incidence of febrile neutropaenia was low in this study, with gram positive microorganisms being the commonest aetiology. Identifying microbial flora for each centre may be beneficial in improving treatment outcome.

#### PAN-LOS-095

##### **Type 2 Pleuropulmonary Blastoma as a Second Cancer in a 5-Year-old Boy: A Case Report**

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**Introduction:** Pleuropulmonary blastoma (PBB), the most common childhood primary lung malignancy, is an uncommon and aggressive intrathoracic malignant mesenchymal tumour that predominantly affects children under the age of five. PBB is related to germline mutations in the DICER 1 gene in 40% of cases. Based on morphology, there are three types of pleuropulmonary blastoma. When compared to Type III (purely solid), the characteristics of Type I (purely

cystic) and Type II (mixed cystic and solid) allow for an early diagnosis.

**Case presentation:** A five-year-old boy was diagnosed two years ago with Wilms tumour via histologic and immunohistochemical testing and confirmed on a second opinion independent laboratory review. He subsequently underwent successful surgical resection and completed adjuvant chemotherapy. During follow-up, there was an incidental finding of bilateral coin lesions in the mid-zones of the lungs. He was asymptomatic and physical examination was unremarkable. The lesions were surgically resected successfully, and a diagnosis of Type II PPB was confirmed via immunological testing. He has had three courses of adjuvant chemotherapy so far.

**Conclusion:** Pleuropulmonary blastoma presents unique challenges due to its rarity and diverse clinical behaviours. This case illustrates the importance of advanced diagnostic techniques, multidisciplinary management, and vigilant postoperative care for optimal patient outcomes.

#### PAN-LOS-109

##### **Hydroxyurea Use in Children with Sickle Cell Anaemia at the Benue State University Teaching Hospital, Makurdi**

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**Introduction:** Sickle cell disease (SCD) is the commonest inherited disorder in tropical Africa. In Nigeria, about 150,000 children are born with SCD annually, with an annual infant death of about 100,000 which represents 8% of the infant mortality in the country. Standard care for sickle cell anaemia includes the use of penicillin prophylaxis, pneumococcal vaccines, folates, malaria prophylaxis and use of disease modifying therapies such as Hydroxyurea and long-term blood transfusions. Despite the fact that hydroxyurea has been proven to be safe in children, its acceptance and use is still very low in Nigeria. **Aim:** To report the use of hydroxyurea at the Benue State University Teaching Hospital Makurdi.

**Methods:** We prospectively followed up 43 children (January 2018- October 2023) attending the SCD Clinic who were enrolled into hydroxyurea therapy on fixed dose hydroxyurea (15mg/kg).

**Results:** In the cohort, 44.2% received hydroxyurea for 3 years, followed by 25.6% for 2 years. Baseline Hb was 9.92±9.87g/dL, and at 24 months, it was 8.96±2.13g/dL. There was a significant difference between the age at diagnosis and at commencement of treatment ( $\chi^2 = 25.368$  df = 9, p = 0.003). There was a substantial reduction in mean vaso-occlusive crises from 7.70 to 1.91 (t = 4.438, p<0.001), hospital admission from 2.60 to 0.84 (t = 5.022, p<0.001), blood transfusion from 1.51 to 0.40 (t = 2.951, p = 0.005) and duration of hospital stay from 6.26 to 2.09 days (t = 3.544, p = 0.001).

**Conclusion:** Hydroxyurea use significantly improved patients' outcome despite a delay in initiating treatment.

#### **PAN-LOS-114**

##### **Multiple Primary Tumors Coexisting in a Child: A Case Report**

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Malignancies occurring in two organs are rare in the paediatric age group. Due to the early detection of malignancies and increased survival rate in recent times, the incidence of multiple primary tumours in patients has been on the rise. There is paucity of data on such reports in Nigeria and Africa among children. This case report aims to increase awareness of multiple primary malignancies coexisting in a paediatric patient.

**Case Summary:** A 5-year-old female presented with a 2-month history of abdominal pain and swelling. Examination revealed a right hypochondriac mass. Exploratory laparotomy was done with the finding of a highly vascularized hepatic mass which histology confirmed to be hepatoblastoma. After excision, the child was discharged to the paediatric oncology unit but defaulted. About 14 months later, she presented with left wrist and bilateral knee pain. A diagnosis of metastatic hepatoblastoma was made and chemotherapy was commenced with minimal improvement. At the presentation for the third course of chemotherapy, the child had developed swellings at the right knee and scalp, convulsions, and loss of consciousness with a GCS of 9/15. A diagnosis of osteosarcoma of the right knee with metastasis was entertained. This was confirmed by histology of the right knee that showed osteosarcoma. Chemotherapy

for hepatoblastoma was discontinued and chemotherapy for osteosarcoma was commenced. Other supportive care was also commenced. Amputation was declined. The child died despite these treatment modalities.

**Conclusion:** Multiple primary malignancy is a possibility in children and there is a need for a high index of suspicion and development of management protocol for such patients.

#### **PAN-LOS-133**

##### **Fat Embolism Syndrome in Sickle Cell Disease Children Presenting at the University of Benin Teaching Hospital: A Case Series**

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**Introduction:** Fat embolism syndrome (FES) is a clinical syndrome that results from release of fat globules into the circulation following an identifiable insult resulting in respiratory and systemic symptoms. In SCD, it follows severe bone pain crisis. This condition is thought to be rare in childhood occurring more commonly in older SCD individuals >20 years of age, and commoner in those with milder forms of SCD: SC and S $\beta$ +. It is associated with a high fatality rate if not identified promptly and treated aggressively.

**Case Summary:** We present eight cases of SCD children (7 SS, 1 SC) aged between 7 and 17 years old who were admitted through the Children's Emergency Room between the months of April and Oct 2023 with varying symptoms of severe bone pain, fever, cough, respiratory distress, severe anaemia, worsening jaundice, oliguria and altered sensorium, coma. All had hypoxaemia with chest findings and were managed for acute chest syndrome, six had acute kidney injury, five had cerebrovascular accident with raised intracranial pressure, two had encephalopathy, three had subgaleal bleeds, and two had acute intrahepatic cholestasis. Five presented with severe anaemia, all had leucocytosis. The mortality rate was 50%. All the deaths occurred in those with CVA, who in addition, had ACS with or without AKI. Manual exchange blood transfusion was done for majority of cases.

**Conclusion:** Fat embolization syndrome is largely a clinical diagnosis. There is need for a high index of suspicion to make this diagnosis as aggressive exchange blood transfusion is needed for survival.

**PAN-LOS-147**

**Genotype Awareness Among Adolescents Attending A Paediatric Clinic in Rivers State, Nigeria**

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**Introduction:** Sickle cell disease (SCD) is a major contributor to recurrent hospital visits, admissions and mortality among adolescents in developing countries. Adolescents' awareness of their genotype plays a major role in ameliorating the course of the disease and in reducing the prevalence of SCD by avoiding marriages among those with sickle cell traits.

**Objectives:** To determine the proportion of adolescents attending the paediatric outpatient clinic (POPC) in Rivers State University Hospital (RSUTH) who know their genotype and the factors associated with the awareness of their genotypes.

**Methods:** A cross-sectional, descriptive study was carried out in the POPC of RSUTH among adolescents aged 10-17 years. A questionnaire was used to collect data from them regarding their knowledge of their genotype.

**Results:** A total of 138 adolescents participated in the study with a mean age of  $12.6 \pm 2.1$  years and male female ratio of 1:1.2. Majority were resident in urban areas (89.1%), early adolescents (65%) and attended post primary schools (76.1%). Seventy-one (51.4%) had had a genotype test performed previously, which were AA (33.3%), AS (7.2%) and SS (10.9%). However, only 42 (30.4%) of them were aware of their genotype result. Those with AS genotype were significantly most likely to know their genotype ( $p < 0.001$ ).

**Conclusion:** Genotype awareness among adolescents in the study was poor. Parental education on genotype testing and informing their children of their results will improve the awareness.

**PAN-LOS-184**

**Liver Cirrhosis in Two Children with Sickle Cell Disease at the University of Benin Teaching Hospital: A Case Series**

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**Introduction:** Chronic liver disease poses a huge burden on individuals with sickle cell disease. Frequent blood transfusion with iron deposition in the

liver, frequent intra-hepatic sickling resulting in liver infarction and healing by fibrosis, viral hepatitis from blood transfusions all contributed to the pathogenesis of liver cirrhosis in SCD individuals.

**Case Summary:** We report 2 children aged 7 and 9 years who presented with deepening jaundice, abdominal pain and distension, passage of dark coloured urine. Both had a history of very frequent crises involving the bones and abdomen. Hepatitis B and C screen were negative in both. The first child had never been transfused in the past while the second child had had only one transfusion and EBT. Both had hepatomegaly of 12cm and 16cm respectively, ascites, massive in the first child. Abdominal ultrasound was suggestive of cirrhosis in both with gall stones in the 9-year-old. Upper Gastrointestinal tract endoscopy showed oesophageal varices, which had to be bound for the 7-year-old child. Both are on propranolol.

**Conclusion:** Liver cirrhosis is a rare complication of SCD and can present in childhood. Frequent vaso-occlusive events especially involving the mesenteric vessels and intra-hepatic sickling seem to be majorly responsible.

**PAN-LOS-187**

**An Interesting Rare Clinical Finding: Anterior Jugular Vein Phlebectasia in a Toddler**

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**Introduction:** Vascular anomalies have been reported to occur mainly in the head and neck region. These anomalies can present as swellings and can be of concern to the caregiver. Neck swelling that is seen only on crying, and valsalva manoeuvre commonly suggests a laryngocele. However, phlebectasia of jugular veins are a close differential but rare in childhood. It appears transiently as a soft cystic like neck mass seen during straining or crying.

**Case Summary:** We report a 19-month-old female toddler with a left sided neck mass seen only with straining or crying, noticed at 7months of life. Swelling was not noticed at rest. There was no associated pain or difficulty in breathing and child had no previous neck infection or trauma. Jugular vein phlebectasia is a rare entity in children and presents as a self-reducible swelling in the neck, soft inconsistency and is made visible with maneuverers that increase the intra thoracic pressure such as crying,

coughing and straining. Doppler ultrasound is usually sufficient for diagnosis but other imaging modalities such as Magnetic resonance venography, catheter-directed venography can also be performed.

**Conclusion:** A neck swelling is most times worrisome to the caregivers, even when it poses no associated obvious problems. It can also be confusing to the clinician. This report seeks to highlight this rare condition, which most of the time is benign and requires no treatment. However, regular follow up is advised.

#### **PAN-LOS-228**

##### **Burkitt's Lymphoma Presenting with Intussusception: A Case Report from Federal Teaching Hospital Gombe.**

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**Introduction:** Burkitt lymphoma is one of the common childhood malignancies and presents with a painless swelling of the jaw or an intra-abdominal mass. It may have unusual presentations depending on the site of origin, making diagnosis challenging. It may cause symptoms indirectly or directly involving the bowel lumen, leading to intestinal obstruction and rarely intussusception.

**Case Summary:** We describe the case of a 15-year-old boy who presented to our facility in August 2023 with a 14-day history of fever, progressive Abdominal swelling, and pain, vomiting and constipation with intermittent episodes of bloody stools. He was acutely ill-looking, febrile, and pale. The abdomen was distended with visible peristalsis and generalized tenderness. Rectal examination revealed hard impacted stool in the rectum. He had leucocytosis and marked neutrophilia. Abdominal USS and X-ray both showed features of small intestinal obstruction. An initial diagnosis of Acute intestinal obstruction due to faecal impaction was made and enema was done. With no improvement after 24 hours, and increasing abdominal pain, dehydration, and bloody stool, he was reassessed to have acute intestinal obstruction due to volvulus and had exploratory laparotomy 72 hours into admission. Intra-operative findings of an intussusception complex with adjacent intramural masses. Three intestinal segments measuring a total of about 63 cm with 3×3cm mass within the telescoped segment were sent for histology. Histology showed

classic starry sky appearance suggestive of Burkitt's lymphoma with a viable resection margin. The child made a full surgical recovery after 10 days post-operatively and was discharged to Paediatric oncology. He was commenced on a chemotherapy regimen consisting of cyclophosphamide, Oncovin, Methotrexate and CNS prophylaxis with intra-thecal methotrexate and cytarabine. He has had four cycles and is clinically stable.

**Conclusion:** Intussusception in older children is more likely to be associated a pathological lesion at the lead point and to have unusual presentations that can be misdiagnosed with resulting delay in treatment as is seen in this case. Therefore, a high index of suspicion needs to be maintained in older children who present with uncommon symptoms of intussusception.

### **INFECTIOUS DISEASES**

#### **PAN-LOS-013**

##### **Cardiometabolic Syndrome Among Adolescents Living with Human Immunodeficiency Virus Infection in Lagos, Nigeria.**

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**Introduction:** Cardio-metabolic syndrome (CMS) a cluster of biochemical and anthropometric abnormalities highly predictive of cardiovascular disease. Antiretroviral therapy (ART) has transformed HIV from an acute infection to a chronic lifelong condition, with increasing trends of CMS among the affected population.

**Aim:** To describe the prevalence and risk factors of CMS among Adolescents living with HIV (ALHIV).

**Methods:** The cross-sectional study enrolled 182 Adolescents aged 10-19 years (91 ALHIV and controls, respectively) attending the Lagos University Teaching Hospital, Nigeria, over eight months. The anthropometric measurements (weight, height, and waist circumference), blood pressure, blood samples for fasting glucose, and lipid profile assays. CMS was defined using the modified International Diabetes Federation criteria.

**Results:** The prevalence of CMS in ALHIV and controls was 2.2% and 1.1%, respectively. The proportions of CMS components among ALHIV compared to controls were 14.3% vs. 9.9% (abdominal

obesity), 11% vs 23.1% (hypertension), 12.1% vs 29.7% (impaired fasting blood glucose), 13.2 % vs 2.2% (high triglyceride) and 20.9% vs 11% (low HDL-c). Female sex and pubertal stages 3-5 were associated with obesity, protease inhibitors-based ART was associated with high triglyceride, pubertal stages 3-5 and WHO HIV stage 2 were associated with low levels of HDL-c ( $p < 0.05$ ). On multivariate analysis, female sex and pubertal stages 3-5 were associated with abdominal obesity, [(OR=12.762; 95% CI=2.526-64.443), (OR=5.987; 95% CI=1.147-31.247)]. Only pubertal stages 3-5 was associated with low HDL-c (OR=14.302; 95% CI=1.187-109.201)

**Conclusion:** The burden of CMS in ALHIV affirms the need for comprehensive services to ensure early detection and intervention.

#### PAN-LOS-021

##### **Psychosocial Dysfunction and Delayed Sexual Development Among Adolescents Living with HIV in Lagos, Nigeria**

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**Introduction:** Human immunodeficiency virus (HIV) infection is a disease of public health concern.

**Aim:** To determine the prevalence and the association between delayed sexual development (DSD) and psychosocial dysfunction (PSD) in adolescents living with HIV (ALHIV).

**Methods:** A cross-sectional study involving 288 adolescents comprising 144 ALHIV and 144 HIV-negative matched controls at the Lagos University Teaching Hospital (LUTH) was done. Information was obtained from participants using interviewer-administered questionnaires. Anthropometric measurements were obtained, and their stages of sexual development and psychosocial function were determined using Tanner staging criteria and Paediatric Symptom Checklist tool respectively.

**Results:** The mean ( $\pm$ SD) age of ALHIV and the HIV-negative controls was 14.8 ( $\pm$ 3.0) and 14.8 ( $\pm$ 2.9) years respectively ( $p = 0.903$ ). All the ALHIV were on HAART and 99.3% were in Clinical stage 1. The prevalence of DSD among the ALHIV and the HIV-negative controls was 9.4% and 6.4% respectively, however, this difference was not statistically significant ( $p = 0.402$ ). The prevalence of PSD in ALHIV and HIV-negative controls were 4.9% and 5.6% respectively ( $p = 0.791$ ). There was no

significant association between PSD and DSD in both groups ( $p = 0.459$  and  $p = 0.301$ ). Among the ALHIV, nutritional status represented by BMI was an independent predictor of DSD ( $p = 0.008$ ).

**Conclusion:** The prevalence of PSD and DSD are low and similar among adolescents with and without HIV. However, periodic screening of all adolescents for PSD and DSD is recommended in view of early diagnosis and management of affected adolescents.

#### PAN-LOS-034

##### **The Impact of COVID-19 Pandemic on Routine Vaccine Uptake at the Child Survival Center of the Lagos University Teaching Hospital**

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**Introduction:** Lagos was the epicentre of the COVID-19 pandemic in Nigeria and the pandemic had far reaching implications on the health services rendered to non-COVID-19 patients including routine health promotion services. The recent resurgence of vaccine preventable diseases (VPD) like diphtheria is thought to be partly due to the disruption of routine immunization services during the pandemic; given similar experiences in the past.

**Aim:** To assess the impact of the COVID-19 pandemic on the uptake of routine vaccines administered at the Child Survival Centre (CSC).

**Method:** This cross-sectional, retrospective study was conducted at the CSC in LUTH using data from routine vaccination over a 36-month period from 1st March 2019 to 28th February 2022.

**Results:** Immediate Impact of COVID-19 (2019–2020): The pandemic era (2020) saw a decline in annual vaccination uptake for PENTA 3, OPV0, HEP 0, OPV 0, and BCG vaccines by 6.17%, 7.21%, 10.27% and 25% respectively. The vaccination rate for measles 1 increased.

**Conclusion:** The COVID-19 pandemic has impacted routine vaccination services negatively. The findings from this study show an annual decline in the BCG, HEP 0, OPV 0 and PENTAVALENT 3 vaccines uptake following the COVID-19 pandemic. Urgent public health measures need to be instituted to prevent the potential escalation of VPD in the near future.

#### PAN-LOS-036

##### **Successful Treatment of Genital Warts in an Eight-Month-Old, Using Intralesional Bacille Calmette-**

**Guerin Vaccine in Rivers State University  
Teaching Hospital – A Case Report**

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**Introduction:** Warts are generally considered to be self-limiting. For cosmetic reasons or when extensive, topical agents such as salicylic acid and silver nitrate may be used. Intralesional Bacille Calmette-Guerin (BCG), bleomycin, oral cimetidine and isotretinoin have also been used successfully in its treatment. We present a case of florid genital warts, initially resistant to silver nitrate, but with excellent response to intralesional BCG administration.

**Case Description:** An 8-month-old male presented with a 2-month history of perineal warts. There was no history suggestive of sexual abuse nor household contact. Initial provider-applications of silver nitrate yielded no improvement. Subsequent intralesional BCG was administered on two occasions, four weeks apart. Two-weekly follow-ups over five months showed progressive resolution of lesions.

**Conclusion:** This case report shows florid genital warts in a child in RSUTH successfully treated with intralesional BCG administration. Salicylic acid and silver nitrate remain the first line of treatment. Intralesional BCG should be considered when response to standard therapy is poor or warts are extensive.

**PAN-LOS-070**

**Attendance Patterns and Outcome of Non-COVID-19 Patients in the Pandemic Era at the Paediatric Emergency Centre, Lagos University Teaching Hospital**

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**Introduction:** Several health facilities were shut down while some rendered only emergency services during the COVID-19 pandemic era. This study aimed at assessing the immediate impact of the pandemic on Children Emergency Centre (ORKCHEC) attendance and outcomes of patients in the pandemic era.

**Methods:** This cross-sectional, retrospective study was conducted at the ORKCHEC, Lagos University Teaching Hospital. Data was extracted from the admission register (December 2019 to May 2020; 3 months prior and 3 months during the pandemic era)

**Results:** There was a decline in ORKCHEC attendance during the COVID-19 pandemic, reaching a nadir of 80 patients (7.2% of total) in May 2020.

**Conclusion:** The pandemic affected ORKCHEC attendance and health outcomes of non-COVID-19 patients adversely, especially neonates. Adequate planning and preparedness are required to forestall similar future experience in the face of health system upheavals.

**PAN-LOS-072**

**Bacterial Co-Infection in Children Aged 6 Months to 12 Years with Severe Malaria in Zaria**

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**Introduction:** Cases of bacteraemia in children with severe malaria have been reported in other parts of Africa, but debate continues as to the significance of this bacterial co-infection which seem to be occurring more frequently than mere chance will suggest.

**Aim:** To determine the prevalence of bacterial co-infection among children with severe malaria in a tertiary health facility in Zaria, north-western Nigeria.

**Methods:** A hospital-based, cross-sectional, descriptive study was carried out on 110 children aged 6 months to 12 years old with severe malaria in Ahmadu Bello University Teaching Hospital Zaria over a period of 19 months. The children were recruited consecutively from the Emergency Paediatrics Unit of the hospital. Their clinical and laboratory features that suggested severe malaria were documented in a study proforma and blood sample taken for bacterial culture and sensitivity testing.

**Results:** Bacterial co-infection was demonstrated in 1 out of 110 (0.9%) of the study subjects. The organism isolated was *Klebsiella* species which was most sensitive to ciprofloxacin followed by gentamicin and chloramphenicol. There was significant association between bacterial co-infection and haemoglobinuria ( $p = 0.01$ ). Age and nutritional status of subjects were not significantly associated with bacterial co-infection.

**Conclusion:** The prevalence of bacterial co-infection in children with severe malaria in Zaria was very low. But the presence of haemoglobinuria in any child with severe malaria should heighten the suspicion of clinicians to the possibility of bacterial co-infection. Routine antibiotic use in children with severe malaria in Zaria should be avoided.



**PAN-LOS-103**

**Atypical Manifestations of Tuberculosis Among the Paediatric Population at a Secondary Health Facility in Lagos, Nigeria - A Case Series**

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The diagnosis of tuberculosis among the paediatric population often remains a challenge due to reasons such as ambiguity of the symptoms which in some cases may be of varying severity. This, therefore, would most times require a high index of suspicion from the clinician. Additionally, paediatric tuberculosis is regarded as an index of a recent transmission from an unidentified infected adult somewhere in the community. This is a case series on the atypical patterns of paediatric tuberculosis at Ajeromi General Hospital, Ajegunle, Lagos, Nigeria over a 9-month period.

Case 1: A 9-month-old male, a maternal orphan who presented with 4-day history of fever, diarrhoea, vomiting and weight loss. Other problems identified were evidence of chronic wasting, evidence of micronutrient deficiencies, signs of neurological involvement and oral thrush. An initial diagnosis of sepsis (gastroenteritis/ meningitis) and severe protein energy malnutrition was made. Initial investigations excluded retroviral disease. The symptoms persisted despite antibiotic and antifungal treatment which led to an index of suspicion of tuberculous disease necessitating screening which showed positive chest findings. Upon commencement of anti-tuberculous treatment alongside nutritional rehabilitation, the child began to show clinical improvement and was thereafter discharged to the outpatient clinic.

Case 2. A 9-year-old male presented with a two-week history of recurrent fever, weight loss and progressive abdominal swelling. Initial investigations excluded a malignancy and a liver pathology but showed an ongoing inflammatory process including severe ascites on an abdominal ultrasound. He was then investigated for tuberculosis as there was nonresponse to antibiotic treatment and potassium sparing diuretics. At this time, anti-tuberculous therapy was instituted and within 48 hours of commencement, a significant reduction of the abdominal girth was observed alongside resolution of the fever. He subsequently made consistent progress in his clinical state and was discharged from inpatient care.

Case 3. A 17-month-old female toddler referred from a primary health centre on account of a 1-week history of diarrhoea. Examination findings showed a malnourished girl with evidence of micronutrient deficiencies. Initial investigations showed electrolyte derangements and normal cell counts. Despite initial management, she regressed with regards to her motor milestones including development of cortical blindness. This necessitated investigation for tuberculosis which showed negative results. However, the managing unit commenced antituberculosis medications as she failed to respond to conventional treatment including antiviral medication. She subsequently improved clinically as well as regaining her lost milestones and improvement of her sight. She was then discharged home and has continued making significant progress clinically.

Case 4. A 12-month-old female who was referred from a primary health centre with a 2-week history of diarrhoea and was managed for sepsis. The problems identified on presentation were pallor, oral thrush, tachycardia, tachypnoea, hepatomegaly, hypotonia, reduced breath sounds and evidence of micronutrient deficiencies and underweight malnutrition with accompanying skin and hair changes. Initial investigations supported a diagnosis of bronchopneumonia in congestive heart failure, anaemia and electrolyte derangements with severe protein energy malnutrition was made. Her symptoms worsened with loss of motor milestones despite antibiotic treatment necessitating screening for tuberculosis which showed suggestive radiological findings. Antituberculosis therapy was commenced with a further worsening of her symptoms and an additional diagnosis of immune reconstitution inflammatory syndrome. She however, improved upon introduction of steroids to her treatment.

**Conclusion** A high index of suspicion is needed in the diagnosis of tuberculosis among the paediatric population.

**PAN-LOS-112**

**Resistant Throat Commensals in Children may Constitute a Risk to Community Health**

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**Introduction:** Throat commensals are acquired soon after birth and change with age to help in immune

adaptation. Commensals maybe acquired from the environment with a *de-novo* resistance, while some mutate with antibiotics abuse in the host. Commensal pathobionts make this an area of interest and a source of spreading harmful resistant organisms.

**Methods:** Following ethical approval, 60 patients were recruited by systematic and cluster sampling from Justine Thomas Primary School. Samples were collected with sterile swab sticks and transported to the laboratory in brain heart infusion agar for analysis. The samples were cultured on peptone water and incubated for 4 hours after which it was sub-cultured on chocolate agar, 5% sheep blood agar and MacConkey agar. The sub-cultured plates were incubated for 24-48 hours at 37°C and the colonies were counted using colony counter. Mixed cultures were purity plated and the identification of the organisms was done with standard biochemical tests. Antimicrobial sensitivity testing was done on the Muller Hinton plate and interpreted according to Clinical and Laboratory Standards Institute (CLSI) guidelines. **Results:** Nine different organisms were grown from the throats of participants with their mean colony count per µL of inoculated brain heart agar, 'n' being the number of persons who had throat culture, and R as persons with Resistant strain. *Streptococcus viridian* was cultured from 59 persons (162.66 ±67.7) n = 59 resistant in 56 persons (R56), *Staphylococcus aureus* (144±75.9) n = 29 persons (R1), *Escherichia coli* (17.76±46.8) n = 20 persons (R2), *Klebsiella spp.* (2.88±6.91) n = 9 (R1) and *Clostridium diphtheria* (135±93.54) n = 7 (R0), *Moraxella spp.* (116.9±79.4) n = 19 persons (R0), *Neisseria spp.* (5) n = 1 (R0), *Neisseria meningitides* (63.4± 71.2) n = 6 (R0), Diptheroids (35) n=1 (R0).

**Conclusion:** Commensals are also a source of infection to others who may be susceptible to the strain. Resistant commensal strains could also cause infection in the host, following pathobionts transformation with depressed immunity or stress. It's important to demonstrate that resistance occurs in the friendly organisms in man and occurred more frequently in the most populous *Streptococcus viridian*.

#### **PAN-LOS-128**

#### **Childhood Diphtheria in Wesley Guild Hospital, Ilesa**

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**Introduction:** Diphtheria is a vaccine preventable disease that recently attained epidemic status in Nigeria. Up to date reports on diphtheria in Nigerian children are scanty.

**Aim:** To report the presentation and outcome of childhood diphtheria admissions at Wesley Guild Hospital, Ilesa, with a view to increase disease awareness among health workers.

**Methods:** Six cases of diphtheria were seen with three each between September and December 2022 and September to October 2023. The six cases represented 1.5% and 3.7% of the paediatric emergency and infectious admissions respectively in the stated period. The patient ages ranged from 5 to 12 years with a mean of 5.6 years. Four parents confirmed zero immunization of their wards, while the remaining two had incomplete immunization. All the patients presented with sore throat and a yellowish adherent membrane at the back of the throat. Additionally, one patient each presented with acute and sub-acute upper air way obstruction. Echythematous lesion to the leg were recorded in one patient. The mortality rate was 33.3% and all-cause paediatric emergency admission mortality rate of 1.2%. Post-diphtheria croup like disease was recorded in a child. The deaths were due to inability to secure the airway due to a lack of facility specialists.

**Conclusion:** Airway obstruction is the most common cause of death. Increased vaccination coverage rate and air way management teams and health facilities availability are suggested as preventive and management modalities respectively to improve disease outcome.

#### **PAN-LOS-155**

#### **A National Survey of Key Healthcare providers' Experiences with Bacterial Meningitis Vaccinations in Children and Young Adults**

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**Introduction:** The Global Burden of Disease study (2019) recorded 2.51 million cases of meningitis worldwide, predominantly in under-fives; 47.8% of cases (1,200,000) occurred in sub-Saharan Africa, with disproportionately higher mortality (61.0%). Bacterial meningitis is vaccine-preventable, yet vaccine coverage rates remain sub-optimal in Africa.

Healthcare providers' (HCPs) prescribing patterns can facilitate or bar uptake.

**Aim:** To assess HCPs' knowledge and practice regarding meningitis vaccination.

**Methods:** We conducted a qualitative electronic survey targeted at physicians with the highest access to the paediatric population. Demographic data, specialty, duration and characteristics of practice, meningitis vaccine prescribing practices, availability, access, and vaccination status monitoring were explored.

**Results:** Two hundred and five participants responded from 28 states of the country. Overall, 64.4% were female, 52.2% paediatricians, 22.4% community health physicians, 54.6% in public tertiary hospitals, 7.8% in primary health centres, and 82% in urban centres. About 86% indicated awareness of inclusion of meningitis vaccines in the National Programme on Immunization (NPI) schedule. Only 23.4% routinely checked meningitis vaccination status and were more likely to do so if their practice included >10 children per month. Also, 64.4% had previously prescribed meningitis vaccines, with a higher likelihood in those who monitored vaccination status routinely ( $p < 0.0001$ ). In addition, 48.3% had the vaccine always available in their practice, vaccines were never available in 18.6%, and out-of-pocket payment was a barrier in 46.8%.

**Conclusion:** The survey identified actionable gaps that can be addressed through creating awareness, advocacy to improve implementation of the WHO recommendations regarding vaccine availability, and universal health coverage.

#### PAN-LOS-161

##### **Immunization Status of HIV-Exposed Infants in Usmanu Danfodiyyo University Teaching Hospital, Sokoto**

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**Introduction:** Routine immunization is one of the components of comprehensive management of HIV-exposed infants, though some are not immunized as they ought to due to fear of the state of their health.

**Aim:** To evaluate the state of immunization amongst infants of HIV-exposed mother in UDUTH, Sokoto.

**Methods:** A prospective study conducted among HIV-exposed children on follow-up visits at the PMTCT

clinic at UDUTH, Sokoto. The mothers were interviewed and immunization cards checked for the number of vaccines received at that time.

**Results:** A total of 144 infants were studied with 90 (62.5%) males and M: F of 2:1. Sixty-two (43.1%) of the mothers aged 25.1 – 30.0 years with 109 (76%) from lower socioeconomic background. One hundred and thirty-five (93.8%) had their immunization up-to-date. The influencing factor for up-to-date immunization included health education (98, 68.1%) and spousal support (87, 60.4%).

**Conclusion:** Immunization coverage among HIV-exposed children was high in the study community and health education and spousal support were found to be the influencing factors; hence health education at various contacts with the mothers and other family members should be encouraged to achieve greater immunization coverage among these children and general populace.

#### PAN-LOS-173

##### **Building Capacity Using Online Courses in Low- and Middle-Income Countries: Paediatric Association of Nigeria Adverse Events Following Immunization Online Course**

PAN Immunization Study Group

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**Introduction:** Adverse events following Immunization (AEFIs) are major reasons for vaccine hesitancy and for rejection of immunization globally. The handling of the occurrence of an AEFI has implications not only for the patient but also for the immunization programme.

**Aim:** To build the capacity of doctors in AEFI management, AEFI reporting and crisis communication using an online platform.

**Methods:** PAN experts developed a curriculum for the four-week course consisting of four modules. Each module was delivered through scheduled weekly Zoom 90-minutes long meetings and consisted of didactic lectures as well as breakout interactive sessions during which case studies were used to illustrate the content of the lectures. Evaluation was done through pre- and post-test assessments.

**Results:** Three courses were held in February, April and June of 2023. Attendance for each module ranged between 63 and 269 persons. Attendance increased from an average of 67 participants in the first course to 234 participants in the third course. Of 198 respondents, 30.3% (60/198) had received previous

training on AEFI, 59.7% (151/198) had managed at least one case of AEFI, and 13.4% (34/198) had ever reported one. Of 185 respondents, 92.4% (171/185) felt the training had improved their knowledge, and 98.4% (182/185) felt confident about discussing AEFI with parents/caregivers after the training compared to 33% (61/185) at its start ( $p < 0.0001$ ).

**Conclusion:** The AEFI online course achieved the objective of building the capacity of doctors in the management, reporting and communications about AEFI.

#### **PAN-LOS-175**

##### **Defying the odds, Dolutegravir Saves the Day: Dolutegravir used off-label successfully prevented HIV Infection in a High-Risk Neonate with Abnormal Liver Function**

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**Introduction:** Access to HIV prevention, care and treatment services was sub-optimal in 2021 and resulted in 850 daily HIV childhood infections. Mother-to-child transmission [MTCT] of HIV is a significant contributor of 6% new global infections and 90% childhood infections. The global reported MTCT risk of 15-45% reduces significantly to less than 2-5% with optimal implementation of the global PMTCT interventions. Unfortunately, in Nigeria, access to PMTCT interventions for HIV-infected women and girls was only globally available to 85% in 2019 and to 30% in Nigeria as at 2018. The WHO recommended Dolutegravir (DTG) as a preferred safe and efficacious component of first and second line anti-retroviral treatment (ART) regimens for adults, children and infants in 2018 and 2019, respectively. This case details the medical history from birth to 18 months of a high-risk HIV-exposed neonate who had PMTCT with DTG. Her mother had standard PMTCT drugs resistance and was on salvage ART regimen pending viral load suppression. The neonate was treated with DTG at 1mg/kg in addition to cotrimoxazole from 6 weeks and was observed initially biweekly, then monthly and bimonthly with clinical examinations, anthropometry, liver, renal function and haematological tests conducted until DTG was stopped when she was 6 months of age. A HIV rapid test was done at 18 months of age.

**Conclusion:** DTG was well tolerated, was effective in PMTCT with no adverse effects. DTG may be

recommended for PMTCT for high-risk HIV exposed neonates in the context of high ART resistance.

#### **PAN-LOS-181**

##### **Assessment of Implementation of the National Guidelines for Malaria in Children among Primary Healthcare Workers in Abakaliki**

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**Introduction:** Nigeria accounts for about 29% of the burden of malaria in Africa with children under-five years among the most vulnerable. The implementation of the National Guidelines for the diagnosis and treatment of malaria in children among health workers in the primary healthcare (PHC) facilities in South-east Nigeria is not well known.

**Aim:** To assess the knowledge, attitude to and implementation of the national guidelines in the diagnosis and treatment of childhood malaria among health workers in the PHC setting and to determine baseline information on the implementation of national policy on malaria diagnosis and treatment in children among the health workers.

**Methods:** Using a cross-sectional study design, all health workers (excluding health attendants) from the selected PHC facilities in Abakaliki Local Government Area, Ebonyi State were recruited. An interviewer-administered questionnaire was used. Twenty-three variables were used to assess knowledge, 27 variables for attitude and 11 for practice. Respondents who correctly answered  $\geq 80\%$  of these variables were regarded as having good knowledge, good attitude and good practice of the national guidelines in the diagnosis and treatment of childhood malaria.

**Results:** The mean age of the respondents was  $32.6 \pm 7.8$  years. Majority, (52; 81.2%) had good knowledge of the national policy on malaria diagnosis and treatment, 44 (68.8%) had a good attitude while 24 (37.5%) had a good practice of the national guidelines. The predictor of good practice was a good attitude to the guidelines (AOR=7.3, 95%CI: 1.4-37.4).

**Conclusion:** There is suboptimal implementation of the guidelines for diagnosis and treatment of malaria in children among the PHC health workers. Targeted interventions by policymakers to facilitate implementation are recommended.

**PAN-LOS-188**

**Serum Lipid Profile of HIV Seropositive Children on Highly Active Anti-Retroviral Therapy: Relationship with Duration and Combinations of Therapy**

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**Introduction:** The use of highly active antiretroviral therapy (HAART) has been associated with abnormal lipid levels or dyslipidaemia which may lead to the development of cardiovascular disease later in life. Information on the effects of HAART durations and combinations of therapy on serum lipid levels of HIV sero-positive children on HAART is limited.

**Aim:** To determine the relationship of serum lipid profile of HIV sero-positive children on HAART with duration and combinations of therapy.

**Methods:** A hospital-based study in which 150 HIV sero-positive children on HAART were consecutively recruited over a seven-month period. Their total cholesterol, triglycerides and high-density lipoprotein-cholesterol levels were quantified using enzymatic colorimetric methods while low-density lipoprotein-cholesterol was calculated using Friedewald formula. Their drug duration and combinations were also documented.

**Results:** The prevalence of abnormal lipid level (high TC, TG, LDL-C and low HDL-C) in subjects was 58%. Low HDL-C was the most common lipid abnormality found (37.3%). The prevalence of hypertriglyceridaemia, hypercholesterolaemia and high LDL-C among HIV sero-positive group were 36.7%, 8.0% and 5.3% respectively. Abnormal lipid level was significantly higher with Protease inhibitor-based HAART combination compared with non-Protease inhibitor-based combinations ( $p = 0.01$ , OR = 0.313, 95% CI = 0.158-0.619). Different durations on HAART did not have significant effect on serum lipid levels.

**Conclusion:** Dyslipidaemia has a relationship with type of HAART combination received by HIV sero-positive children. Regular lipid profile monitoring among HIV sero-positive children on HAART especially those on protease inhibitor-based combinations is recommended.

**PAN-LOS-195**

**A Profile of Provider-Initiated Testing and Counselling among Paediatric Patients at National Hospital Abuja**

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**Introduction:** Provider-initiated Testing and counselling (PITC) refer to HIV testing and counselling which is routinely recommended by healthcare providers to persons attending healthcare facilities as a standard component of medical care. It is recommended by most international health organizations in settings with high HIV prevalence, most especially as voluntary testing and counselling rates remain low. In such settings, Nigeria included.

**Aim:** To assess the outcome of offering PITC in the Units managing Paediatrics cases at the National Hospital between January 2021 and September 2023 to assess the performance of this standard of care. This was to provide a guide to its uptake and possible improvements.

**Methods:** Serological HIV testing done following a physician's request was collated and analysed for patients less than 15 years. This included data from the EPU and other Paediatrics units, including non-medical paediatric units.

**Results:** A total of 5003 children were tested with male (55.1%) and aged 6-14 years (44.7%). One hundred and ninety-eight were positive with the rate being higher among females (4.2%). Only in 246 patients (4.9%) did the laboratory request indicate the testing, and malaria was the most frequent one encountered.

**Conclusion:** The high positivity rate in this study re-emphasizes that PITC remains a valuable tool for early diagnosis of HIV and initiation of therapy. There is a need for its continuation and improvement.

**PAN-LOS-196**

**The Level of Knowledge and the Predictors of Willingness to Vaccinate with Malaria Vaccine: The Mother-Child Dyad**

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**Background:** Giant steps were taken to introduce the novel malaria vaccine poised towards reducing morbidity and mortality associated with malaria.

There is need to determine the awareness and vaccine uptake among the vulnerable mother-child-dyad.

**Aim:** To determine the knowledge of malaria vaccine and factors militating willingness to accept it among mothers seen in nine hospitals in Enugu.

**Methods:** A cross-sectional study of 491 mothers and their children using validated self-administered questionnaires assessing perceived benefits, perceived susceptibility and perceived barriers as well as knowledge, attitude and practice of malaria vaccine.

**Results:** While 72.1% of the respondents were aware of malaria vaccine, 83.1% were willing to receive it and 92.9% were willing to vaccinate their babies. Less than a quarter of the respondents, 20.8% were aware that mothers are a priority group for malaria vaccine. Younger mothers were about six times more likely to vaccinate themselves and their babies when compared to older mothers (AOR = 5.7, 95%CI: 1.7-19.0). Mothers in low socio-economic class were five times less likely to vaccinate themselves and their babies when compared with those in high socio-economic class. (AOR = 0.2, 95%CI: 0.1-0.5). Respondents who perceived themselves as being susceptible to malaria as well as those who had good knowledge of malaria vaccine were more likely to vaccinate themselves and their babies (AOR = 26.9, 95%CI: 13.2- 54.7) and (AOR = 3.3, 95%CI: 1-6-6.8) respectively.

**Conclusion:** Although the study documented a high vaccine acceptance among mothers, there is a need for regular communication and education for its sustainability.

#### **PAN-LOS-197**

##### **Are We Monitoring the Growth of Children During Immunisation Visits?**

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**Introduction:** Immunization is one of the most successful preventive healthcare measures worldwide. It has been integrated with other important preventive childcare services like growth monitoring, but how effective has this been?

**Aims:** To determine the proportion of children under the age of 5 years, seen at the University of Benin Teaching who receive growth monitoring services during immunization visits.

**Methods:** It was a descriptive, cross-sectional study being carried out at the University of Benin Teaching Hospital. Study participants were children under 5

years of age who presented to the Children's Emergency Division and were recruited consecutively.

**Results:** A total of 100 participants were studied. The mean age was 18.6±1.6 months and the male-female ratio was 1:4.1. Incomplete vaccination history was obtained from 19%, and the most common reason given was "travel". Weight was measured at immunization visits for 92% of study participants, however, only 52% of participants had their weights plotted on the growth curve. In contrast, over 50% of the children studied did not have their height checked at immunization, and only 7% of them had their heights plotted on the growth curve. Over 50% of facilities not carrying outgrowth monitoring were tertiary facilities, however, the difference was not statistically significant.

**Conclusion:** Most children accessing immunization services do not benefit from other integrated preventive child health care services like growth monitoring.

#### **PAN-LOS-211**

##### **Buruli ulcer: Two Case Reports in Nigerian Children**

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**Introduction:** Buruli ulcer (BU), a debilitating neglected tropical disease-causing chronic skin ulcer. Most occurrences are in rural, impoverished communities. *Mycobacterium ulcerans* can affect any age group, but primarily children aged 5-15 years. Areas particularly prone to transmissions are close to rivers, stagnant water bodies and low-lying wet plains prone to flooding.

**Aim:** To draw attention of healthcare providers, and key players in healthcare policies to this preventable disease.

Case 1: OT, an eight-year-old female presented with painless right elbow swelling and ulcer of one month duration, and fever of 3 days duration. The swelling started after classmate's teeth accidentally hit her swinging arm. Swelling progressed to an ulcer. No history of weight loss or cough. She resided in a remote rural part of Ogun State. Mother confirmed presence of stagnant pools of water, stream and thick bush. Screenings for HIV and diabetes were negative. Wound swabs sent to NIMR for PCR was positive.

Case 2: Two-year-old with Paediatric AIDS presented with one year history of weight loss and three weeks

history of back swelling with an ulcer, which progressively increased in size (15x8cm). She resided in a community in Lagos close to stagnant water. Chest XRay revealed pulmonary tuberculosis. Wound biopsy at LUTH histopathology laboratory was suggestive of BU. She had blood transfusion, HAART with nutritional rehabilitation. Both had daily wound dressing, Rifampicin 10mg/kg daily and Clarithromycin 7.5mg/kg BD for eight weeks. Both ulcers healed.

**Conclusion:** Chronic non-healing ulcer should alert physician of likely BU in this environment. Surveillance and public enlightenment should be improved to reduce occurrence.

#### PAN-LOS-215

##### **Paediatric Severe Malaria Anaemia: Outcomes and Associated Factors in a Tertiary Hospital in Northern Nigeria**

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**Introduction:** Despite having the highest global burden of malaria, there is a dearth of data on the in-depth analysis of the burden of paediatric severe malaria anaemia in Nigeria.

**Aims:** To determine the incidence of anaemia, clinical features, hospitalization outcomes, and associated factors among paediatric severe malaria anaemia admitted to a tertiary hospital in north-western Nigeria.

**Methods:** This was a retrospective study of children with confirmed severe malaria anaemia admitted between 2019 and 2022. We extracted relevant information from the hospital records

**Results:** Of the 948 malaria cases and 8,295 paediatric admissions, there were 278 malaria anaemia cases, with an incidence of 29.3% and 3.4%, respectively. Incidence of severe anaemia was 11.6% (110/948) and 1.3% (110/8,295) except for loss of consciousness ( $p = 0.038$ ). Severe anaemia was more common among under-fives (76/159; 47.8%),  $p = 0.003$  and females,  $p = 0.013$ . Crude mortality rate was 6.5% (18/278) and remained consistent [6.4%, (7/110)] with severe anaemia ( $p = 0.924$ ). Factors that were associated with hospitalization deaths included unconsciousness [adjusted odds ratio (AOR) 5.8, 95% confidence interval (CI) 1.800-18.441], hypoxaemia AOR [7.3,

95% CI, 1.749-30.473] and first 24 hours of admission AOR [18.4, 95% CI 3.430-98.705].

**Conclusion:** This study found a high paediatric severe malarial anaemia with a greater burden among under-fives and high mortality. Unconsciousness and hypoxaemia at presentation and the first 24 hours of admission were associated with increased odds of death in malaria cases and paediatric admissions, respectively. Clinical features were comparable across the levels of anaemia.

#### PAN-LOS-219

##### **Yaws - Resurgence of an Old and Eliminated Infection?**

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Yaws is a non-venereal disease caused by the organism *Treponema pallidum pertenu* and transmitted by direct skin contact, and primarily affects children younger than 15 years. It is similar to syphilis and can persist for years as a chronic relapsing disease.

**Case Summary:** SJ, a 14-year-old male Mandinka by tribe from Bundung and a boarding house Arabic school pupil was referred from a Health Facility with the history of recurrent multiple skin lesions, fever, passage of loose stools of four days duration and several of episodes of tonic-clonic seizures. These skin lesions were first noticed at seven years of age and it regressed with herbal treatment. They however reoccurred four years later, associated with fever for which the child made several outpatient visits, treated with some drugs (names unknown and recovered). Clinical examination revealed a chronically ill-looking, small for age child, moderately pale with multiple lesions spreading cephalo-caudally. Lesions appeared reddish with irregular edges and a central pallor measuring between 1cm by 3 cm, some were punctuate, some healing with significant crusting, and the rest were still fresh exposing bony areas especially the tibial, radial and ulna bones which had altered shapes but without any demonstrable fractures. There were repetitive seizures, altered sensorium and hypertonia in all limbs, demonstrable hepatosplenomegaly but no lymphadenopathy, respiratory distress but with normal chest findings. The Retro-viral test was negative, VDRL test was positive, the platelet counts were significantly reduced

and with demonstrable severe anaemia. Conclusion: The recurrent nature of the extensive skin lesions, multiple systemic involvement, misshaped bony structures, positive VDRL test at the background of severe poverty, ignorance and ultimately malnutrition were suggestive of this debilitating disease.

**PAN-LOS-236: Chest Imaging Findings of Children and Adolescents Living with HIV: Implications for Prevention and Care**

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**Introduction:** Majority of children living with HIV acquire the infections from their mothers. A fraction of adolescents who have lived with HIV also acquire their infections from their mothers. With currently available and effective anti-retroviral therapies, these children and adolescents (CLHIV) have reached their thirties and still counting. HIV related lung diseases are many and varied, some overt and some others asymptomatic. This study documents the types of lung abnormalities found in CLWHIV.

**Methods:** Longitudinal, observational study of CLWHIV visiting the clinics for TB preventive treatment. Pre-treatment. Chest Xray and CT scan was done on selected clients as indicated.

**Results:** Out of 90 children and adolescents who performed Chest Xray, 78% were abnormal. The commonest abnormalities were lobar and segmental opacities (66%), hilar and perihilar opacities (21%) and cystic dilatations (5.5%); 11.1% had chest CT scan and 50% of them had bronchiectasis.

**Conclusions:** HIV-related lung diseases are varied as described in this study and some may be asymptomatic in CLHIV. It is recommended that a high index of suspicion and careful selection criteria be adopted during routine care of CLHIV to reduce missed opportunities for diagnosis and care.

**PAN-LOS-237**

**Incorporating Chest X-Ray into the Child and Adolescent Tuberculosis Diagnostic Cascade: A Means to an End?**

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**Introduction:** Tuberculosis (TB) accounts for millions of active diseases and deaths worldwide despite available and effective treatment. CXR as a

key diagnostic tool for Paediatric TB has been in use for over a century. It identified a significant number of asymptomatic children with findings suggestive of pulmonary TB. Again, 1/3 of persons with presumptive TB screened with CXR was abnormal. This high yield justifies its incorporation into TB diagnostic cascade, especially given its ease of use and immediate results.

**Aim:** To document the usefulness of Chest XRay in the TB diagnostic cascade in children and adolescents.

**Methods:** A descriptive cross-sectional study, done in 9 Local Government Areas of Cross River Stat over 36 months.

**Results:** Chest XRay was performed by 1253 children aged 4 days to 18 years (mean of 6.44 years and median of 6 years), with 30.6% (1-4 years), 38.8% (5-9 years) and 22.3% (10-14 years). This performance increased from 9% in 2016 through 34.9% in 2017 to 56.1% in 2018 ( $\chi^2 = 101.93$ ,  $p < 0.001$ ). Normal Chest XRays were found in 15.9% and abnormal Chest XRay suggestive of TB found in 49.6%. Among 0-14 years, 47.8% had CXR suggestive of TB with male sex preponderance ( $\chi^2 = 6.46$  and  $p = 0.17$ ).

**Conclusion:** Addition of CXR to the TB screening cascade gave a higher yield of TB cases and demonstrated that a combination of strategies significantly improved case finding in this population. There is need to highlight a comprehensive cascade for TB diagnosis in this and similar settings.

**PAN-LOS-002**

**Telepaediatrics in Neonatal Care in Nigeria: Applicability and Acceptability by Paediatricians**

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**Background:** Telepaediatrics has been applied in neonatal care in developed nations and this has contributed immensely to reduction in neonatal mortality. Nigeria currently has unacceptable neonatal mortality indices that fall far below target of the sustainable development goals.

**Aim:** To ascertain the applicability and acceptability of utilizing telepaediatric consultations in newborn care in Nigeria.

**Methods:** In this cross-sectional, descriptive study, using a convenience sampling technique, data was obtained from 74 Consultant Paediatricians practicing in Nigeria as accessed from the Paediatric Association of Nigeria WhatsApp platform. An electronic, self-



administered questionnaire was used for data collection. **Results:** All respondents had heard of telemedicine, 82.4% have used it at least once in child healthcare service delivery, 90.5% perceive it as complimentary to physical consultation, and 74.3% agreed it has prospects in neonatal care. On the Likert's point scale, majority of respondents "agreed" that telepaediatrics is applicable in neonatal outpatient care (44.6%), inpatient care in medically underserved areas (44.6%), and emergency neonatal service delivery (47.3%). Respondents however expressed concerns with virtual newborn care considering the "complexity" of neonatal care. Awareness, lack of human, physical and financial resources were identified as constraints to application of telepaediatrics in neonatal care in Nigeria.

**Conclusion:** While telepaediatrics is well known and acceptable by paediatricians in Nigeria, they are cautiously optimistic about its applicability in neonatal care. Deployment of this medium of care is still a distant possibility especially because of resource constraints.

#### PAN-LOS-016

##### **Frequency - Outcome of Hypoxic - Ischaemic Encephalopathy Among Asphyxiated Babies with Apparently Normal Apgar Score Beyond the First Minute of Life**

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**Introduction:** Hypoxic-ischaemic encephalopathy (HIE) is the most neurologically devastating consequence of perinatal asphyxia and a cause of neonatal death. In developing countries and in the absence of foetal scalp blood pH measurement, Apgar score still remains one of the tools used in identifying asphyxiated babies for further interventions from the first minute of life, despite its limitations. Although, asphyxiated babies may have apparently normal Apgar score after the first minute of life - post - resuscitation; these babies may still develop features of HIE due to the primary asphyxia. **Aim:** To document the frequency of HIE (for prompt interventions) in asphyxiated babies with apparently normal Apgar Score after the first minute of life.

**Methods:** A prospective study involving 54 neonates with features of perinatal asphyxia at UNIOSUN Teaching Hospital, Osogbo.

**Results:** The male to female ratio of the babies with perinatal asphyxia was 1.08: 1 respectively while the mean of birth weight was  $2.9 \pm 0.46$ . Eight of 54 asphyxiated babies (14.8%) at 5 minutes of life ( $\chi^2 = 221.7$ ;  $p = 0.000$ ) and 24 out of 54 (44.4%) asphyxiated babies at 10 minutes of life ( $\chi^2 = 77.4$ ;  $p < 0.001$ ) had developed features of HIE despite recording apparently normal Apgar score at 5 and 10 minutes of life respectively - post - resuscitation.

**Conclusion:** Features of HIE should be anticipated in asphyxiated babies with apparently normal Apgar score (post - resuscitation); this is crucial for specific interventions and prompt care.

#### PAN-LOS-053

##### **Care Practices for Neonatal Jaundice in Ibusa, A Peri-Urban Community Of Oshimili North Local Government Area of Delta State**

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**Introduction:** Delay in recognition of Neonatal Jaundice can culminate in Bilirubin Induced Encephalopathy, hence the need to learn from the community about their care practices so as to plan prevention strategies.

**Methods:** We used FGDs, KIIs and structured questionnaires within the community to learn the care practices for neonatal jaundice in Ibusa, Oshimili North Local Government Area of Delta state. Qualitative data were transcribed and grouped into themes. The quantitative study was also analysed.

**Results:** Majority of the participants and mothers (94.8%) had high awareness of neonatal jaundice however, recognition of severe neonatal jaundice was not optimal as 29% of the mothers were unaware of any danger signs suggestive of severe neonatal jaundice. Knowledge of neonatal jaundice and its treatment was poor as 69.5% of the mothers declined to take their newborns to the hospital if they developed jaundice. Some cultural beliefs and myths in the community about newborns with jaundice may be seen to be detrimental to their survival.

**Conclusion:** The knowledge of neonatal jaundice was poor and some risky traditional care practices were identified. Public education on neonatal jaundice should be embarked upon to eliminate severe neonatal jaundice.

**PAN-LOS-055**

**Feeding Outcomes of Very Low Birth Weight Babies at the University College Hospital, Ibadan**

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**Introduction:** Feeding practices for VLBW vary across neonatal units in Nigeria. Adequate data to inform feeding practices for this group of babies is scarce in Nigeria. The global recommendation is early introduction of enteral feeds and rapid advancement for better outcomes.

**Aim:** To review the feeding practices among very preterm/very low birth weight babies in UCH and the immediate neonatal outcomes.

**Methods:** A retrospective review of 49 VLBW babies who survived till commencement of enteral feeds over a nine-month period in UCH. The unit protocol is that of early commencement and rapid advancement of feeds. Information on feeding practices and neonatal outcomes were extracted. #

**Results:** The mean GA was 30.1±1.43 weeks, mean birth weight 1.23±0.14 kg. Mean age at first feed was 2±0.84 days. Rate of advancement was 20 – 40ml/kg/day, with the mean of 29±5.8 ml/kg/day. EBM was the first feed in 78% of cases and 22% started with preterm formula. The time to full enteral feeds was 4 – 25days, with a mean of 7.8 ± 4 days. The mean age at which birthweight was regained was 10.8 ± 6.3 days and direct breastfeeding was achieved in 15.3±8.8 days. Feed intolerance was recorded in 10.5% of cases, feeds temporarily discontinued in 23.7% and suspected NEC in 5.3%. Metabolic complications recorded were hypoglycaemia (29%) and metabolic acidosis (7.9%). Ninety-two per cent survived till discharge.

**Conclusion:** The practice of early commencement of enteral feeds and rapid advancement in preterm VLBWs feasible in the Nigerian setting, associated with favourable outcomes and should be encouraged.

**PAN-LOS-057**

**Cornelia De Lange Syndrome: A Case Report**

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**Introduction:** Cornelia de Lange syndrome is a heterogeneous condition with diverse congenital anomalies. It occurs in 1:10000 to 1:30000 live births

and has no gender predilection. Features include restricted prenatal growth, intellectual disability, craniofacial irregularities, limb anomalies, hirsutism, gastroesophageal reflux, genitourinary malformations, and heart defects.

**Aim:** To highlight this uncommon disease entity in our environment, aid in the diagnosis, and improve the outcomes of affected children.

**Case Summary:** We report a case of a 36-day-old low-birth-weight term male neonate who presented with anterior chest wall swelling, poor weight gain from birth, and recurrent vomiting of 3 weeks' duration. On examination, the child had dysmorphic facies (hypertrichoses, receded chin, malformed right pinna, microphthalmia of the left eye, synophrys, low frontal and neck hairline), grade 3/6 systolic murmur loudest at the right lower sternal border. Following investigation, an assessment of a term male neonate with possible Cornelia de Lange syndrome with coagulase-negative *Staphylococcus aureus* sepsis and acyanotic congenital heart disease was made. Management was multidisciplinary. However, the child died on the 12th day of admission with multiple organ collapses: raised ICP, heart failure, recurrent vomiting, severe respiratory distress unresponsive to respiratory support. Autopsy findings confirmed cerebral oedema, lung collapse, transposition of the great vessels, atrial septal defect, right ventricular hypertrophy, left ventricular atrophy, pyloric stenosis, and bilateral cryptorchidism.

**Conclusion:** Cornelia de Lange syndrome, though rare, should be looked out for and diagnosed, especially in LBW infants failing to thrive and showing the features. A timely diagnosis is important to enable early and appropriate interventions.

**PAN-LOS-073**

**Helping Babies Breathe Program at the Primary Health Care Centres of Oshimili Local Government Area of Delta State**

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**Introduction:** Asphyxia rates is very high in Nigeria. It is well known that babies die where they are born especially in the absence of skilled birth attendant. Helping babies breathe (HBB) is an educational program to improve neonatal resuscitation skills. This

program will enhance the skills of the primary health care (PHC) workers to intervene promptly at birth.

**Methods:** The Department of Paediatrics, FMC Asaba along with their youth corpsers sought the collaboration of the Delta State Primary Health Care development Agency to conduct this activity. The training was conducted at the beneficiary health facility by the FMC Paediatricians with the youth corps service doctors in Oshimili south LGA. The Laerdal neonatal newborn simulator was used in demonstration by training instructors. Post training skills retention was assessed on the site, support was provided until each participant mastered the skill. Skills supervision and support will be conducted monthly for six months thereafter.

**Results:** A total of 13 primary health care centres, 11 in Oshimili South Local Government Area and two in Oshimili North Local Government Area were trained. Sixty per cent of trainees had good performance at the first skills demonstration attempt, 90% of the total trainees at the second attempt and the rest 10% at the third attempt. Each training session lasted 1.30 hours. A total of 118 PHC workers were trained. Each facility was provided a bag-mask and suction device.

**Conclusion:** Practical demonstration and skills building is a rapid means of teaching health workers at PHC.

### PAN-LOS-075

#### **Role of Immature-to-Total Neutrophil Ratio (I:T ratio) as a Predictor of Neonatal Sepsis in a Low-Resource Setting**

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**Introduction:** The morbidity and mortality rates from neonatal sepsis are particularly high in sub-Saharan Africa. Diagnosis is cumbersome because the sensitivity of blood culture using manual techniques is ridiculously low. Adjunctive investigations including neutrophil indices such as and immature-to-total neutrophil ratio have been reported to have varying degree of sensitivity and specificity.

**Aim:** To evaluate the predictive role of this neutrophil parameter in neonatal sepsis using rigorous exclusion criteria.

**Methods:** The study was a cross sectional design done at the Adeoyo Maternity Teaching Hospital, Ibadan. Two hundred and ninety neonates with some specified risk factors for sepsis including prolonged rupture of membranes and prematurity were recruited. Those with characteristics such as maternal hypertension, APGAR score less than 6 at 5 minutes, Birth weight <1.5kg were excluded. Blood culture with Brain Heart Infusion broth and manual counting of white blood cells and their differentials was done.

**Results:** Blood culture was positive in 31 neonates. The median I:T ratio was 0.14 among neonates with proven sepsis and 0.11 among culture negative neonates ( $p = 0.001$ ). The I:T ratio had low sensitivity of 35.5% but high specificity (82.2%) and Negative Predictive Value (91.4%). The area under the ROC curve (AUC) was 0.68. Binary logistic regression identified I:T ratio as a predictor of sepsis in at-risk neonates.

**Conclusion:** The I:T ratio is a useful adjunctive test for evaluating newborns at risk for sepsis and has been found in this study to be a predictor of neonatal sepsis.

### PAN-LOS-079

#### **Prevalence and Associated Risk Factors of Still Birth in a Tertiary Hospital in a Low-Resource Setting**

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**Introduction:** Stillbirth is defined as a foetus born with no signs of life at or after 28 weeks gestation. Globally, approximately 2 million stillborn infants are delivered annually. Nigeria's stillbirth rate of 43/1000 is the second highest in the world. The public health importance of stillbirths is however grossly underestimated. The stillbirth rate is an important indicator of the quality of antenatal care and obstetric care during labour and delivery. Recent data on the prevalence and associated risk factors for stillbirth is sparse in Nigeria and this may be partly responsible for the slow decline of the stillbirth rate. **Aim:** To determine the prevalence of stillbirth and associated risk factors at our hospital.

**Methods:** A retrospective study design conducted at Federal Teaching Hospital, Ido-Ekiti, Nigeria. The hospital records of mothers who delivered babies without any sign of life at  $\geq 28$  weeks from January 1, 2018, to January 1, 2023, were reviewed.

**Results:** Stillbirth rate was 26 per 1000. Half of the stillbirths were born to mothers aged 25 – 34 years. Pre-eclampsia/eclampsia and prolonged/obstructed labour were the leading prenatal and intrapartum risk factors contributing 29.2% and 30.8% respectively to stillbirth rate. The majority (55.9%) of the stillbirths were preterm and weighed < 2500g.

**Conclusions:** Stillbirth rate in our study was high. Addressing the factors related to preterm birth could reduce the high still birth rates. It is recommended that deliberate efforts be made at improving access of pregnant women access to specialized obstetric care to reduce the high burden of stillbirths.

#### **PAN-LOS-081**

##### **A Survey on the Use of Kangaroo Mother Care Among Mothers in Lagos**

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**Introduction:** Kangaroo Mother Care (KMC) is a recognized standard of care for preterm and low-birth-weight newborns. It can reduce preterm mortality by up to 40% at 40-41 weeks corrected age.

**Aim:** To assess the knowledge, attitudes and practices of KMC among mothers in Lagos and the difficulties associated with utilizing KMC.

**Methods:** A community-based, descriptive cross-sectional study carried out in Mushin Local Government Area of Lagos State. Multistage sampling method was employed to select mothers of infants (aged 0-12months) who resided in Mushin. A five-section structured, pretested, interviewer-administered questionnaire was used.

**Results:** The 334 respondents with complete data were analysed. The mean age of respondents was 29±7.34 years. About 93.4% of respondents have heard of KMC, yet only 35.6% have good knowledge of it. The majority, 82.7%, of the mothers did not know the benefits of KMC. Most, 92.2%, had a negative attitude toward KMC, had no interest in acquiring more knowledge of KMC and were not willing to utilize or recommend it in the future. Major barriers include its foreignness and deviation from the local practice of carrying babies on the back (58.1%).

**Conclusion:** The awareness of KMC among mothers in Mushin was high, but proper knowledge and attitude towards its practice were very low. Lack of

knowledge and perception of its foreignness were major barriers to its utilization.

#### **PAN-LOS-082**

##### **The Growing Trend of Surrogacy in Nigeria: Implications for Quality Newborn Care – A Case Report**

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Surrogacy involves a woman (surrogate) who consents to carry a pregnancy on behalf of an individual or a couple who cannot conceive for medical reasons. Surrogacy is gaining popularity in Nigeria among infertile couples, partly because surrogacy provides an easier means to having children than adoption. Surrogacy can be either gestational or traditional. Though surrogacy gives hope to infertile individuals, it also comes with peculiar challenges that affect the newborn with medical, ethical, and legal dimensions that caregivers need to be abreast of.

We present two sets of preterm triplets conceived by *In-vitro* fertilization (IVF), carried by gestational surrogacy, and managed in our facility. This case report highlights challenges encountered while managing these neonates to create awareness and suggest solutions and guidance to neonatal practitioners. Topmost challenges include the unsustainability of feeding with the mother's own milk, lack of kangaroo mother care, abandonment of care by commissioning parents, delay in getting consent for treatment/procedures, determining the legal status of the child vis-à-vis simple issues such as changing the name of the child from that of the surrogate to that of the commissioning parents. The hospital's legal and welfare departments were key resource units and were involved early in managing these neonates. One baby from each set of triplets was successfully discharged home to the commissioning parents.

**Conclusion:** Surrogacy is becoming increasingly common as a means of becoming parents for infertile individuals. There is an urgent need for proper regulation and legal framework for surrogacy and assisted reproduction in Nigeria.

#### **PAN-LOS-088**

##### **Virtual Essential Newborn Care Simulations for Skills Maintenance in Essential Newborn**

### Care – The Virtual ENC Study

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**Introduction:** Computer-based virtual simulations (VS) use established technological and artificial intelligence to meet the training needs for healthcare professionals.

**Aim:** To examine the educational efficacy of virtual essential newborn care (vENC) simulations on ENC knowledge and skills retention in health professionals and assessed the optimal frequency of use.

**Methods:** From December 2022 to June 2023, in-service healthcare workers who provide newborn care had a two-day in-person training with WHO ENC1 and ENC2 materials. Pre- and immediate post-training evaluations were conducted, before participants were given access to vENC simulation modules on study-specific phones. A six-month follow-up evaluation on ENC1 and ENC2 knowledge checks, bag and mask ventilation skills (BMV), and case scenarios (CS A and B) were done. The pre-course, immediate and 6-month post-course performance were analysed.

**Results:** A total of 70 nurses and midwives from 14 primary, 7 secondary and 2 tertiary facilities participated, 56% reported using vENC at least weekly. A total of 496 simulation scenarios were completed over 3-4 months by 52 participants. Scores of all skills assessments improved from before and immediately after the ENC course ( $p < 0.001$ ). The BMV ( $p = 0.037$ ), both CSA ( $p = 0.008$ ) and both CSB scores ( $p = 0.009$ ) improved between the immediate and six-month post-course assessments ( $p < 0.05$ ). Most participants were likely to report that vENC provided valuable practice (85%) and to recommend vENC to a colleague (85%).

**Conclusion:** vENC simulations support health professional skills in essential newborn care and participants tended to use vENC at least monthly.

### PAN-LOS-098

#### The Role of Duplex Colour Doppler Ultrasonography in the Detection of Acute Kidney Injury in Perinatally Asphyxiated Neonates

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Perinatal asphyxia is a significant cause of AKI, especially in asphyxiated neonates in the first five days of birth. The standard clinical criteria used in older patients, such as an elevated serum creatinine level and decreased urine output, lack sensitivity in the neonatal population. Both colour Doppler sonography and amplitude-coded colour Doppler investigations add functional imaging to the anatomic-morphologic description of neonatal renal injuries.

**Aim:** To determine if Duplex Colour Doppler Ultrasonography (DCDU) can predict early detection of AKI in perinatally asphyxiated neonates and correlate the sonographic findings with the severity of asphyxia.

**Methods:** This analytical cross-sectional case-control study was done between September 2022 and January 2023 on 70 perinatally asphyxiated and healthy neonates in LUTH. Laboratory investigations and renal DCDU were conducted after clinical evaluation.

**Results:** The incidence of AKI in asphyxiated neonates in this study was 40%. Of the asphyxiated neonates, three (8.6%) were oliguric. The mean renal arterial RI in the asphyxiated neonates on day 1 ( $0.81 \pm 0.08$ ) and day 3 ( $0.79 \pm 0.06$ ) were significantly higher than in the healthy neonates ( $p = 0.0252$  and  $0.0428$ , respectively). RI has good sensitivity (53.8%) but low specificity (22.7%) and accuracy (34.3%) in detecting AKI in perinatally asphyxiated neonates on day 1 and day 3 (sensitivity-69.2%, specificity-18.2%, accuracy-37.1%).

**Conclusion:** The renal artery Doppler parameters correlated strongly with renal artery flow changes and severity of perinatal asphyxia on days 1 and 3. RI has good sensitivity but low specificity and accuracy in detecting AKI in perinatally asphyxiated neonates.

### PAN-LOS-107

#### Knowledge and Attitude of Mothers Towards Donor Breast Milk in Makurdi North Central Nigeria.

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**Introduction:** Breastfeeding is one of the most effective ways to ensure child health and survival. Improving breastfeeding practices could save the lives

of more than 800,000 children under 5 every year, the vast majority of whom are under six months of age. Early exposure to maternal antibodies, lactoferrin, oligosaccharides and other protective components in breast milk may improve neonatal and infant immune function. Mother's own milk is widely recognized as the optimal feeding for term infants but also provides health benefits that are of vital importance for sick and preterm infants. When mother's milk is unavailable or in short supply, donor human milk is the second best alternative recommended.

**Aim:** To determine mothers' knowledge and attitude to donor breast milk in Makurdi Benue State.

**Methods:** A cross-sectional descriptive study involving 403 mothers attending antenatal/immunization clinics was carried out at the Benue State University Teaching Hospital from September 2022 to January 2023.

**Results:** While 36.5% (147) of mothers had heard about donor breast milk, 67.2% (271) of the mothers were willing to donate their breast milk, but only 37.2% (150) agreed to accept donor breastmilk for their baby. Knowledge about donor breast milk was significantly associated with educational status ( $p = 0.036$ ) and the willingness to donate was significantly associated with knowledge ( $p = 0.015$ ).

**Conclusion:** Mothers education is a key factor influencing both knowledge and willingness to donate breastmilk.

#### **PAN-LOS-118: The Magnitude of Risk for Early-Onset Sepsis in Neonates Born after Prolonged Rupture of Membrane in Ibadan, Nigeria**

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**Introduction:** Prolonged rupture of membranes (PROM) is a recognised risk factor for early onset-sepsis, which often necessitates institution of empiric antibiotics in many babies. However, only a proportion of babies born after PROM actually develop sepsis.

**Aim:** To determine the magnitude of risk for early onset sepsis in neonates born after rupture of membrane of 18 hours or more.

**Methods:** This was a cross-sectional study of 164 neonates born to mothers with PROM of 18 hours or more. The neonates were screened for sepsis and monitored for clinical features of neonatal sepsis for

72 hours while placenta histology was carried out for evidence of chorioamnionitis.

**Results:** Nine (5.5%) mothers had features of clinical chorioamnionitis while 88 (53.7%) had histologic chorioamnionitis. Thirty-seven (22.6%) neonates had clinical features of sepsis, mainly respiratory symptoms. Only 8 (4.9%) neonates had culture-proven sepsis. The majority of the symptoms were observed within 24 hours of life. The odds of having culture-proven sepsis with PROM  $\geq$  18 hours only was 1.04 ( $p = 0.020$ , OR = 1.04, CI = 1.01, 1.08). Mothers with PROM greater than 3 days were 11.8 times more likely to have culture-proven sepsis compared with mothers with rupture of the membranes less than 3 days ( $p = 0.010$ , OR = 11.8, CI = 1.799 – 77.839).

**Conclusion:** The incidence of culture-proven EOS was low among newborns delivered following PROM only as a risk factor. It is recommended that PROM alone should not be an absolute indication for empiric antibiotic therapy in otherwise well neonates in order to stem the tide of emergence of antibiotic resistance.

#### **PAN-LOS-139**

**Septo-Optic Dysplasia in an Infant: A Case Report**  
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**Introduction:** Septo-optic dysplasia was first described by Georges de Morsier, a Swiss Neurologist in 1956. It is a rare congenital malformation of the front of the brain that affects 1: 10,000 births with no sex predilection during the end of the first month of gestation. We report this rare disorder to highlight its occurrence, aid diagnosis to improve outcome of affected children in our environment.

**Case Description:** A one-month-old infant presented with excessive crying, fever, refusal to suck and convulsion, all of two days duration, fast breathing of few hours prior to presentation, and lapsed into unconsciousness on the way to the hospital. Following review and investigations, he was managed for late-onset neonatal sepsis (meningitis). Following treatment and resolution of symptoms, his pupils remained dilated and unreactive to light. The ophthalmologists reviewed and made an impression of bilateral primary optic nerve atrophy. An MRI subsequently revealed a hypoplastic corpus callosum, absent frontal horn of both lateral ventricles, absent

optic chiasma, suggestive of septo-optic dysplasia. He had no hormonal abnormalities. He was managed by a multidisciplinary team and discharged home. He is on follow-up care at the ophthalmology, neurology and endocrinology clinics.

Septo-optic dysplasia may present with all (80%) or two (60%) features of the triad of optic nerve hypoplasia, absent or abnormal septum pellucidum and pituitary hypoplasia. Management is mainly supportive.

**Conclusion:** This case underscores the importance of detailed investigation of neonates with unusual clinical presentation to enable early diagnosis and intervention, to improve outcome.

#### PAN-LOS-140

##### **Did the in-hospital survival of out-born perinatally-asphyxiated infants improve in the last decade? A descriptive cross-sectional comparison of two periods (2011-12 versus 2021-22) at the Lagos State University Teaching Hospital**

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**Introduction:** Perinatal asphyxia (PA), resulting from or presenting with failure to initiate or sustain spontaneous post-birth respiration, is often complicated with organ injuries especially hypoxic-ischaemic encephalopathy (HIE). PA disproportionately contributes up to one-third of in-hospital neonatal deaths in Nigeria due to factors like poor antenatal care, late presentation, inadequate advanced in-hospital neonatal care, etc. In LASUTH, in 2011-2012, PA contributed 23.8% of neonatal admissions (490/2060 over 2 years) and 41.4% of neonatal mortality (NM), with case-fatality rate (CFR) of 23.1%.

**Aim:** To compare recent (2021-22) mortality data among out-born asphyxiated with the decade-old baseline data.

**Methods:** We retrospectively extracted clinical data on neonates admitted and managed for perinatal asphyxia/HIE from October 2021 to October 2022 from the admission and discharge records of the neonatal wards.

**Results:** Of a total of 1,189 neonates admitted, PA accounted for 14.5% (172/1189), consisting of 111

males (M:F ratio = 1.9:1) and 179 preterm infants (preterm: term ratio = 1.0:5.6). PA accounted for 32.5% of overall in-hospital neonatal mortality (preterm- 14.3%; term- 41.7%), with CFR of 23.8% (preterm- 28.6%; term- 23.2%).

**Conclusion:** PA still contributes disproportionately to neonatal mortality in our centre. Although the relative contribution of PA to neonatal admission and death reduced slightly, its CFR remained unchanged when compared with the 2011-12 data. To reduce the CFR further, there is need for in-depth assessment of pre- and intra-hospital factors underlying this observation to guide appropriate interventions, preferably bundled as quality improvement (QI) initiatives.

#### PAN-LOS-142

##### **Effects of Early Initiation of Breastfeeding on Blood Glucose Levels in the First 24 Hours of Life in High-risk Newborns**

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**Introduction:** Hypoglycaemia is a prevalent metabolic disturbance in the newborn as it affects up to 15% of high-risk newborns. It commonly occurs in the first days of life and may be associated with long-term neurologic deficits if not promptly diagnosed and managed. Promotion of early breastfeeding and frequent monitoring of blood sugar levels is an effective prevention approach.

**Aim:** To assess the effects of early initiation of breastfeeding on neonatal hypoglycaemia in the first 24 hours of life in high-risk infants.

**Methods:** Mothers were educated during antenatal visits on the importance of breastfeeding and early initiation of breastfeeding. Antenatal colostrum breast milk was expressed where possible and breastfeeding was initiated immediately after birth by lactation managers. The babies' heel stick blood sample for random blood sugar was obtained upon delivery and two hours later after the 1st colostrum feed. Sampling was repeated two-hourly over 24 hours of life using a point of care glucometer. Low blood sugar levels < 45mg per decilitre were corrected with 10% dextrose water. All babies were fed with expressed breast milk two hourly.

**Results:** A total of 68 high-risk neonates were recruited for this study, 47 terms and 21 preterm. The blood glucose concentration at first sampling ranged

between 50-180mg/dl, 8 newborns had values <45mg/dl. At 24 hours of age, no baby had a low blood glucose level.

**Conclusion:** Early breastfeeding and close monitoring of blood glucose levels in high-risk newborns are pertinent in the prevention of neonatal hypoglycaemia.

#### **PAN-LOS-146**

##### **Priority Setting for Identifying Topics for Newborn and Child Health Guidelines in Nigeria.**

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**Introduction:** Sub-Saharan Africa has the highest under-five mortality rate globally. Child healthcare decisions should be based on evidence-informed guidelines developed using explicit and systematic methods and informed by identified priorities. The Global Evidence, Local Adaptation (GELA) project undertook a prioritization activity to define guideline-relevant priorities for newborn and child health in Nigeria.

**Methods:** The process in Nigeria included stakeholder engagement, priority-setting surveys, and consensus meetings. A 14-member national Steering Group (SG) representing government, academia, WHO, UNICEF, professional groups and non-governmental organisations was established. Initial topics were obtained from a desk review of WHO poverty-related diseases guidelines, burden of disease/technical data and consultation with SG. Relevant stakeholders rated the importance of the topics via online surveys. Initial lists of priority topics were identified (April-September 2022) and added to surveys open for four weeks and completed by 78 persons. Survey results informed consensus meetings with the SG to agree on final priority topics.

**Results:** The survey completion rate was 68%. Eleven topics were identified, which informed a consensus meeting (December 2022). The top three priority topics identified were early pre-eclampsia identification/management, compliance with hand hygiene recommendations for improving outcomes in hospitalised newborn and the timing of enteral feeding to improve outcomes in low birth weight and preterm infants.

**Conclusion:** Through dynamic and iterative stakeholder engagement, three priority topics for

developing newborn and child health guidelines in Nigeria were identified. The process highlighted the importance of contextualized priority setting and engaging with end-users who help define the priorities.

#### **PAN-LOS-148**

##### **Complete Pentalogy of Cantrell: A Case Report**

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Pentalogy of Cantrell (POC) is a rare congenital anomaly comprising anterior diaphragmatic defect, ventral abdominal wall defect, pericardial defect, intracardiac anomalies, and lower sternal defect. This condition is divided into two categories: complete or partial. Complete refers to the presence of all five defects, while others may present with only partial defects. POC may also carry genetic associations with trisomy 13, 18, 21, and Turner syndrome. Both sporadic and genetic causes are proposed. It was first described in 1958 by Cantrell *et al.* and has a reported incidence of around 5 - 10 cases per one million live births with various clinical presentations. The prognosis depends on the severity of the defects and the associated cardiac anomalies.

**Case Summary:** We report a case of a 5-hour-old term female neonate with ectopia cordis, cleft lower sternum, epigastric omphalocele, diaphragmatic defect, and intracardiac defects (ventricular septal defect, overriding aorta, and absent pericardium). The condition was diagnosed at birth. The patient also had limb abnormalities and dysmorphic facies. This case report seeks to create awareness of this condition in our environment and support previous findings that the severity of extra and intracardiac defects leads to worse outcomes. The eviscerated heart and epigastric omphalocele were managed conservatively while the baby was worked up for surgery. Management was multidisciplinary in approach. The baby developed sepsis and electrolyte derangements and was accordingly managed. However, the baby died on the ninth day of life before any surgical intervention and autopsy confirmed all the defects mentioned above.

#### **PAN-LOS-166**

##### **The Predictive Values of Neutrophil- Lymphocyte Ratio And Platelet- Lymphocyte Ratio As**



### Screening Tools For Early Onset Neonatal Sepsis In National Hospital Abuja

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**Introduction:** Early onset sepsis (EOS) is sepsis manifesting within 72 hours after birth and can be rapidly fatal therefore requires prompt recognition and treatment while avoiding unnecessary antibiotic exposure. Proven biomarkers for diagnosis are costly and not easily accessible therefore, affordable and easily available screening tools like neutrophil-lymphocyte ratio (NLR) and platelet lymphocyte ratio (PLR) is desirable in our locality.

**Aim:** To evaluate the performance of NLR and PLR relative to procalcitonin (PCT) in screening for EOS among newborns in National Hospital Abuja using blood culture as the gold standard.

**Methods:** This was a cross-sectional study among 173 newborns aged 0-72 hours of 28- 42weeks gestational age admitted with risk factors and/or clinical features of sepsis. Full blood count (FBC), PCT and blood culture were done, NLR and PLR calculated from the FBC and other relevant information documented. The median value of NLR, PLR and PCT in the 60 cases of culture proven sepsis was 1.65, 4.25 and 3.1ng/ml respectively at cut-off  $\geq 1.23$ ,  $\geq 5.65$  and  $>0.5$ ng/ml respectively. The sensitivity and specificity of NLR was 56.67% and 47.79% with values of 41.67% and 41.59% for PLR. At NLR  $< 1.23$ , 67.5% of babies without EOS tested negative. PCT had the highest sensitivity, NLR and PLR had higher specificity and lower positive likelihood ratios. NLR had the highest overall diagnostic accuracy at 51%. **Conclusion:** NLR and PLR were less sensitive than PCT but their use is recommended in resource limited settings as adjuncts in early presumptive diagnosis of EOS and promoting antibiotic stewardship.

### PAN-LOS-171

#### A Two-Year Review of Preterm Admissions in Major Hospitals in Lagos State

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**Background:** Preterm births and its associated complications are a major contributor to Nigeria's high neonatal mortality. The birth of a preterm baby places

a huge medical and financial burden on the children, their family and the healthcare system.

**Aim:** To highlight the pattern of admissions, morbidities, challenges and outcome of preterm deliveries in some major hospitals in Lagos over a two-year period.

**Method:** A retrospective study. Data of preterm admissions collated from 18 major hospitals in Lagos state from Nov 2021 to Oct 2023 was documented and analysed.

**Results:** There was an increase in the total deliveries in most of the facilities. Total neonatal admissions increased from 8389 in 2022 to 9807 in 2023. In spite of a slight decline in preterm admissions (2897 in 2022 and 2746 in 2023), an increase in the average preterm mortality from 16.7% in 2022 to 20.7% in 2023 was recorded. Mortality remained highest among the ELBW babies. Poor regulation of IVF centres leading to an increase in delivery of nonviable foetuses, an increasing number of babies with congenital anomalies, poor stabilization, transport and referral system across facilities in the state, inadequate manpower, poverty and delays in referral were major factors recognized as contributors.

**Conclusion:** A reduction in preterm deaths remain a major goal in reducing the country's U5 mortality rate. Investment in newborn health ranging from legislation, training and retraining of health workers, a viable health insurance scheme and a functional referral system are essential in improving outcome of preterm deliveries.

### PAN-LOS-183

#### Wolf-Hirschhorn Syndrome: A Case Report of a Rare Syndrome

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**Introduction:** Wolf-Hirschhorn syndrome (WHS) is an extremely rare disorder caused by irregularities on the short arm of chromosome 4. The estimated frequency is 1:50,000 to 1:20,000 births. It is characterized by intellectual disabilities, Greek warrior helmet appearance of the nose and forehead, as well as skeletal, cardiovascular and urogenital defects.

**Case Summary:** We report a suspected case of Wolf-Hirschhorn syndrome, delivered to a 33-year old woman at our facility at term, with a "Greek Warrior Helmet" facial appearance, other dysmorphic features

and intrauterine growth restriction. Diagnosis was made using the Face to Gene app. Wolf-Hirschhorn syndrome (WHS) is an extremely rare chromosomal disorder. It is caused by the partial deletion on the short arm of chromosome 4. As with most syndromes, it has a multi-systemic affection. Prognosis is poor with 34% mortality before the second year of life. Babies who survive beyond infancy, have a wide morbidity spectrum with severe intellectual disabilities, failure to thrive as well as motor deficits.

**Conclusion:** WHS is a rare syndrome that may be inherited but is mostly sporadic. The outcome depends on the associated systemic malformations. Knowledge of this syndrome is useful in light of the poor prognosis and extreme morbidity associated with it, as this will aid in genetic and ante natal counselling following a reported index case.

#### **PAN-LOS-208**

##### **Extended Breastfeeding up to Two Years and Beyond Among Mothers at the Well Baby Clinics in Abakaliki: A Qualitative Assessment**

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**Introduction:** Extended breastfeeding has varying definitions across climes. In ours, it refers to breastfeeding up to two years and beyond according to the National Policy on Infant and Young Child Feeding in Nigeria, which demands exclusive breastfeeding for the first six months of life, followed by the introduction of appropriate complementary foods, with continued breastfeeding for up to two years and beyond. Mothers' compliance to this policy is questionable.

**Aims:** To determine mothers' attitude towards the practice of extended breastfeeding and the possible enablers or barriers.

**Methods:** A qualitative study using Focus Group Discussions amongst 30 multiparous women with at least one child above two years of age, seen at the Well-Baby Clinics of a tertiary and a primary health facility in Abakaliki metropolis. The average number of participants per group was 8. Age range of respondents was 21-45 years. Thematic areas of discussion were on attitude, practice and enablers or barriers to extended breastfeeding.

**Results:** Majority stopped breastfeeding between 12 - 15 months. Only very few practised extended

breastfeeding due to reasons like job demands, it was deemed unnecessary and energy sapping. Being a housewife with pay, and availability of energy giving foods for mothers were suggested enablers. Those who breastfed for two years or more felt satisfied.

**Conclusion:** Despite the documented linear relationship between good health and length of breastfeeding, implementation of extended breastfeeding is poor amongst mothers in the study setting and this may call for more family-oriented interventions.

#### **PAN-LOS-219**

##### **Foetal Alcohol Syndrome in a Baby with Maternal Alcohol Consumption in Southwest Nigeria: A Case Report**

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**Introduction:** Foetal alcohol syndrome is the most severe form of Foetal Alcohol Spectrum Disorder (FASD) that affects babies exposed to alcohol *in utero*. Alcohol can easily cross the placenta; alcohol and its metabolite acetaldehyde disrupts foetal development by interfering with cellular differentiation and growth, DNA and protein synthesis, and inhibiting cell migration. It modifies the metabolism of carbohydrates, proteins, and fats and reduces the transfer of nutrients across the placental barrier, indirectly affecting foetal growth due to intrauterine nutrient deprivation. Diagnosis is based on confirmed maternal alcohol consumption, characteristic facial anomalies, growth retardation (intrauterine growth restriction and failure to have catch-up growth), and central nervous system involvement (small cranial size at birth, cognitive impairment, learning disabilities, or behavioural abnormalities).

**Case Summary:** A 2500g, full-term female neonate was delivered at 38 weeks plus 4 days gestation by emergency C/S to a 36-year-old para3 (3A) teacher. The pregnancy was not desired; she intended to terminate the pregnancy by taking alcohol. She claimed to have taken over ten bottles of 250ml of alcohol in the first trimester. At birth, the APGAR score was poor, and the baby was hospitalized. On examination, she had short palpebral fissures, low-lying ears, smooth philtrum, flattened nasal bridge, very thin upper limbs, and a high-arched palate. OFC was 33cm, and length was 48cm. She was discharged seven days

after admission with a weight of 2.35kg, to be followed up at the clinic. **Conclusion:** Foetal Alcohol Syndrome (FAS) is a leading cause of intellectual disability in the United States. It is essential to raise awareness about FAS, and the only way to prevent the syndrome is for pregnant women to avoid alcohol consumption.

**PAN-LOS-229: Meconium Pseudocyst Presenting as Unilateral Congenital Buttock Swelling: A Rare Occurrence**

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**Introduction:** The occurrence of meconium pseudocysts as a unilateral congenital buttock swelling stands as a rare yet critical presentation within the spectrum of congenital neonatal anomalies. Due to its rarity and atypical presentation, this condition, characterized by the encapsulation of meconium within a cystic structure, presents a special diagnostic challenge. The presentation is thought to be a function of the timing of an *in-utero* bowel perforation, the site of perforation, and the baby's ability to wall off the extravasated meconium. Variability in its aetiology and its ability to mimic common gluteal swellings make diagnosis difficult. Therefore, diagnosing it necessitates a high level of suspicion, thorough examination and investigation.

**Case Description:** A 26-hour old apparently well male out-born was referred to our facility, following birth with a small gluteal swelling on the right buttock which rapidly increased to 12 x10cm and kept increasing. The swelling was cystic and fluctuant with overlying hyperaemic and shining surface but not tender. An initial diagnosis of gluteal swelling of unknown cause to exclude right gluteal hernia. A tap yielded meconium. MRI showed air fluid intrabdominal mass and cystic gluteal mass. Exploration of the gluteal swelling confirmed meconium inside the devitalised tissue.

**Conclusion:** This diagnosis of meconium pseudocyst though rare, highlights the need to search for other causes of swellings in the buttocks of neonates besides gluteal teratoma and sacrococcygeal teratoma. f

**PAN-LOS-231**

**Comparison of Mokuolu, Fenton and Intergrowth-21st growth charts for predicting insulin Resistance Associated with Small- or Large-for-Gestational Age Newborn Infants**

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**Introduction:** Newborns with abnormal intrauterine foetal growth (aIFG), including small-for-gestational-age (SGA) or large-for-gestational-age (LGA), are at higher risk of insulin resistance (IR) and adverse outcomes, than those appropriate-for-gestational-age (AGA). Nigerian (Mokuolu), Caucasian (Fenton-2013) or international growth-charts (Intergrowth-21st) may identify aIFG. However, it is unknown which best predicts clinically relevant outcomes among Nigerian newborns.

**Aim:** To compare the best predictor of IR among Mokuolu, Fenton-2013 or INTERGROWTH-21ST charts.

**Methods:** One hundred and fifty newborn term infants were cross-sectionally sampled for fasting serum glucose and serum insulin to calculate Homeostatic Model Assessment of Insulin Resistance (HOMA-IR). IR was defined as HOMA-IR>1.19. Using Mokuolu, Fenton-2013 and Intergrowth-21st charts, infants were categorised as SGA (weight-for-gestation values < 10<sup>th</sup> percentile), LGA (> 90<sup>th</sup> and AGA (10-90<sup>th</sup>), respectively; aIFG defined as SGA or LGA. The predictive association of aIFG with IR for each chart was assessed with area-under-the-curve (AUC) and crude odds-ratio. Agreement among charts was assessed with Cohen's  $\kappa$  (95% CI).

**Results:** Using Mokuolu, Fenton-2013 and Intergrowth-21st charts, the prevalence of aIFG was 16.7%, 15.8% and 22.7%, respectively; AUC was 0.54, 0.51 and 0.51, respectively; OR was 2.1, 0.9 and 1.2, respectively. Agreement was best between Mokuolu and Intergrowth-21st [ $\kappa$  =0.81 (0.68, 0.95)], than between Fenton-2013 and Intergrowth-21st charts [ $\kappa$  =0.35 (0.29, 0.41)] or between Mokuolu and Fenton-2013 [ $\kappa$  =0.25 (0.15, 0.34)].

**Conclusion:** All charts demonstrated similar predictive association of aIFG with IR, but best with Mokuolu chart with excellent concordance with Intergrowth-21st. Mokuolu chart may be best for classifying the birthweight of Nigerian infants but needs further and larger sample-sized validation.

**PAN-LOS-235**

**Associated Socio-demographic Factors and Outcome of Babies with Low Apgar Score in a Tertiary Institution in Southwest Nigeria**

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**Background:** A newborn with low Apgar scores is a major cause of neonatal morbidity and mortality. Despite efforts to reduce this mortality, it remains high, particularly in low and medium-income countries. Neonatal mortality accounts for 32% of overall annual deaths of children under five.

**Objective:** To determine the proportion of term newborn babies with low fifth minute Apgar scores and to identify sociodemographic factors associated with this condition and its outcome at Wesley Guild Hospital in Nigeria.

**Methods:** This was a prospective, cross-sectional study that took place in the labour ward and special care baby unit. A low Apgar score was defined as an Apgar score of  $\leq 6$  at the fifth minute of life.

**Results:** The study found that 16.4% of newborn babies had a low 5th-minute Apgar score. Factors significantly associated with a low 5th-minute Apgar score included male gender, babies of mothers referred from another town, low socioeconomic class, antenatal care at maternity centre, church and private hospital, and primiparity. Of the 92 neonates with low 5th minute Apgar score, 60 (65.2%) had hypoxic ischemic encephalopathy. Of these, 72 (78.3%) were discharged home, 4 (4.3%) were discharged against medical advice, and 16 (17.4%) died.

**Conclusion:** Sociodemographic factors play a significant role in the incidence of low Apgar scores. Creating awareness and improving access to antenatal care and delivery services can help reduce the occurrence.

**PAN-LOS-246**

**An Unacceptably High Rate of Non-compliance with Chlorhexidine-based Cord Care by Mothers in Edo Central Senatorial District, Nigeria**

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**Introduction:** Owing to the associations between cord care, risk of neonatal sepsis and neonatal mortality in resource-poor countries, the WHO has recommended

the use of chlorhexidine gel for cord care in these countries, and this has been adopted as the national policy in Nigeria. However, the extent of policy-adherence is uncertain, especially in rural and semi-urban communities.

**Aim:** To ascertain the degree of compliance and its impact, in Esan Central Local Government Area of Edo State, Nigeria.

**Methods:** We interviewed 410 mothers with newborns on their cord care practices and physically examined the cord of the babies for signs of omphalitis between February-August 2018. The mother-baby pairs were recruited through multi-stage sampling and appropriate cord care was defined as cutting of the umbilical cord with sterile/clean instruments followed thereafter with the daily application of chlorhexidine gel.

**Results:** None of the mothers interviewed used chlorhexidine gel in cord care (CC) while 12% used methylated spirit (MS), 72% used MS/other substances and 16% used other substances. Four per cent of babies who had MS-CC vs 14% on other substances and/or MS had omphalitis ( $p = 0.05$ ).

**Conclusions:** We unexpectedly found total non-compliance with chlorhexidine-based CC and a low prevalence of omphalitis. We have set out to validate these findings in a wider area and to assess the level of policy-awareness as well as factors associated with non-compliance.

**PAN-LOS-249: Trends in Neonatal Morbidity and Mortality at the Special Care Baby Unit, OOUTH, Sagamu**

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**Introduction:** Neonatal mortality constitutes about 40% of under-five mortality in Nigeria. Areas requiring attention in terms of policy, planning and service delivery need to be highlighted.

**Aim:** To determine the pattern of neonatal morbidities and mortality in a tertiary health facility.

**Methods:** A chart review of prospectively kept database of neonatal admissions and deaths was carried out.

**Results:** A total of 547 admissions were recorded in period studied with an average of 36 per month. These comprised 322 (58.6%) males and 209 (38.2%) in-born babies. The leading morbidities included prematurity (75; 35.9%), perinatal asphyxia (32;

18.2%), sepsis (32;15.3%) and hyperbilirubinaemia (26; 12.4%) among in-born babies whereas the leading morbidities among out-born babies included prematurity (55; 16.2%), perinatal asphyxia (97;28.6%), sepsis (52; 15.4%) and hyperbilirubinaemia (51; 15.1%). *Staphylococcus aureus* was the leading blood isolate (28/54; 51.9%) in babies with sepsis who had blood culture. There were 14 (2.6%) babies with acute bilirubin encephalopathy and they were all out-born. The overall mortality rate was 14.9% (82/547) with 22 (26.3%) in-born and 60 (73.2%) out-born babies. The case fatality rate among in-born babies was 10.5% compared to 28.7% among out-born babies ( $p = 0.012$ ). Overall, the leading causes of death included asphyxia (31;37.8%), prematurity (22; 26.8%), hyperbilirubinaemia (10; 12.2%) and sepsis (9; 10.9%). The case fatality rates in asphyxia, prematurity, hyperbilirubinaemia and sepsis were 24.0%,16.9%, 12.9% and 10.7% respectively. **Conclusion:** Closer attention to antenatal care and delivery services are essential to reduce morbidities and mortality among newborn babies in Nigeria.

## NEPHROLOGY

### PAN-LOS-040

#### The pattern and Outcome of Kidney Diseases in South-east Nigeria: A 3-Year Review

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**Introduction:** Globally and locally, there are reported increases in incidence, differences in pattern of presentation, and aetiology of kidney diseases in children. The burden in our region is yet to be reviewed two decades after it was first reported.

**Aim:** To establish the trend of presentations and aetiology of kidney diseases in southeast, Nigeria.

**Methods:** The study was prospective, multi-centre, and was carried out at three tertiary hospitals in the southeast from 2021 to 2023. Children aged 18 years and below who either presented to the clinic or was admitted due to kidney diseases were recruited. Relevant information about their clinical profile was documented in a proforma designed for the study.

**Results:** A total of 526 patients were recruited, males 344 (65.4%), females 182 (34.6%) with M: F of 2:1. The mean age was  $8.46 \pm 5.35$  years. Majority (328, 62.3%) were children aged 1 – 12 years. Nephrotic syndrome (209, 39.7%) and AKI (125, 23.8%) were the commonest diseases. For AKI, acute glomerulonephritis (39, 31.2%) and sepsis (29,23.2%) were the most implicated. Others included urinary tract infection (48, 9.1%), obstructive uropathy due to posterior urethral valve (42, 8.0%), other congenital anomalies (14, 2.7%), CKD (42, 8.0%), nephrolithiasis/urolithiasis (24, 4.7%), lupus nephritis (15, 2.9%), enuresis (5, 1.0%), and nephroblastoma (2, 0.4%). One hundred and fifteen (21.9%) used herbal medications. CKD/ESRD had the highest (27, 65%) mortality. Only 5 (11.9%) had successful kidney transplant.

**Conclusion:** There is a significant rise in trend of kidney diseases especially AKI, CKD and obstructive uropathy.

### PAN-LOS-066

#### Serum NGAL as a Biomarker of Acute Kidney Injury in Babies with Perinatal Asphyxia in Abia State, South-East Nigeria

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**Introduction:** Many severely asphyxiated infants may develop acute kidney injury (AKI), which is predominantly non-oliguric. The incidence of AKI in asphyxiated neonates is high, leading to high morbidity and mortality. The use of serum neutrophil gelatinase-associated lipocalin (sNGAL) helps in early diagnosis of AKI.

**Aims:** To evaluate the use of sNGAL measurement for early detection of AKI in babies with perinatal asphyxia.

**Methods:** A cross-sectional, descriptive study was carried out at the newborn special care unit of ABSUTH, Aba. Asphyxiated neonates were grouped into severe (0-3), moderate (4-5), and mild (6) based on Apgar scores at the fifth minute of life. Serum NGAL estimation was done within the first six hours of delivery. Serum creatinine was monitored daily for the first week of life. Subjects enrolled in the study were categorized within 72 hours of admission into AKI group and no-AKI group. AKI was defined as serum creatinine  $\geq 133 \mu\text{L/L}$  or a percentage increase in serum creatinine of  $\geq 50\%$ .

**Result:** A total of 155 term neonates with perinatal asphyxia were studied. Among these neonates, 69 (43.9%) had mild, 44 (29.0%) had moderate and 42 (27.1%) had severe perinatal asphyxia respectively. The mean sNGAL concentration of 345.3ng/ml, 673.1ng/ml and 866.1ng/ml was found in mild, moderate, and severe perinatal asphyxia respectively. A statistically significant difference was observed in these mean sNGAL concentrations ( $p < 0.05$ ). The sNGAL levels increased with the increasing severity of AKI. There was a higher serum NGAL concentration with a mean of  $614.00 \pm 22$ ng/ml in patients with AKI ( $p < 0.05$ ). A cut-off value of 270ng/ml for sNGAL could detect AKI in asphyxiated neonates with a sensitivity of 99.3% and the area under the curve of 1.0 was statistically significant. ( $p = 0.001$ ) **Conclusion:** SNGAL is a highly sensitive biomarker of AKI. SNGAL levels measured within the first six hours afterbirth is elevated in patients with AKI.

#### **PAN-LOS-083**

##### **Comparison of Serum Cystatin C and Creatinine-based Estimated Glomerular Filtration Rates in Under-Five Children with Severe Malnutrition in Bida, Nigeria**

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**Introduction:** Severe acute malnutrition (SAM), is a global health problem with high morbidity and mortality contributing to more than half of deaths in under-five children worldwide. Established effects of malnutrition on renal function among others is a reduced glomerular filtration rate (GFR). Serum creatinine is widely used to estimate GFR in clinical practice, but creatinine level is related to muscle mass which is grossly depleted in SAM. Cystatin C, is believed to be more accurate in detecting renal failure in children and since it is not affected by muscle mass, it is thought to give a more accurate estimated GFR (eGFR) in children with SAM.

**Aim:** To comparatively describe the prevalence of acute kidney injury (AKI) using estimated glomerular filtration rates determined by serum cystatin C and creatinine in under-five children with SAM.

**Methods:** This descriptive, cross-sectional study determined the eGFR of 60 under-five children with

SAM using serum cystatin C (Filler's equation) and creatinine (updated Schwartz formula) and compared it with their age and sex-matched well-nourished counterparts.

**Results:** The mean eGFRs using both cystatin C and creatinine were significantly different ( $p < 0.001$ ) between the subjects and controls. The prevalence of acute kidney injury (AKI) in the subjects using serum Cystatin C and creatinine were 36.7% and 76.7% respectively.

**Conclusion:** Serum cystatin C showed a much lower prevalence of AKI in under-five children with SAM compared to serum creatinine. This is despite the severe muscle depletion in these cohort of patients and perceived inaccuracy of serum creatinine.

#### **PAN-LOS-110**

##### **Psychosocial Correlates and Quality of Life of Children and Adolescents with Enuresis in Ikeja, Lagos**

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**Introduction:** Enuresis is a prevalent disorder in childhood. Certain comorbidities like psychological disorders are associated with enuresis. These disorders have not only been causally related to enuresis but also have been implicated as consequences of enuresis. Enuresis can also result in reduced Quality of Life (QoL), this can be assessed in different domains using validated tools, example of which is the Paediatrics QoL inventory (PQoLI) which was used in the index study.

**Aim:** To evaluate the psychological and social correlates of enuresis and quality of life of enuretic children and adolescents aged 5-15 years in Ikeja, Lagos.

**Methods:** A comparative, cross-sectional survey was conducted from December 2021 to May 2022, involving 284 participants (142 children with enuresis and 142 apparently healthy comparative subjects that were matched for age and sex). Psychological morbidity was assessed using the SDQ while QoL was assessed using PQoLI.

**Results:** The prevalence rate of enuresis was 14.6%, there is a significant association between enuresis and low socioeconomic status. The total SDQ score was significantly higher ( $p = 0.003$ ) in children with enuresis (12-17) compared to the control group (7-13). The Total Difficulties scores in children with enuresis

increased significantly with increasing age ( $p < 0.003$ ). The total QoL mean score ( $69.06 \pm 21.9$ ,  $p = 0.040$ ) of children with enuresis was significantly lower than children in the control group ( $74.06 \pm 18.8$ ). The independent predictors of overall QoL include age, hyperactivity and emotional.

**Conclusion:** The prevalence rate of 14.6% shows that enuresis is a common disorder in children, Enuretic children are more likely to have psychosocial affectation

#### PAN-LOS-119

##### **Acute Kidney Injury in Sick Hospitalized Newborns at the Special Care Baby Unit of Jos University Teaching Hospital**

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**Introduction:** Acute Kidney Injury (AKI) is a clinical condition characterized by a sudden potentially reversible deterioration in renal function, resulting in the inability of the kidneys to maintain fluid and electrolyte homeostasis. It occurs in 8 to 24% of neonates admitted into the Neonatal Intensive Care Unit (NICU). AKI in neonates is associated with increased risk of morbidity and mortality.

**Aim:** To determine the prevalence, risk factors and outcome of acute kidney injury in sick hospitalized newborns at special care baby unit (SCBU) of Jos University Teaching Hospital (JUTH).

**Methods:** A descriptive, cross-sectional study conducted between November 2018 and June 2019 at the SCBU of JUTH among 150 sick newborns recruited consecutively. Serum creatinine was assayed at 72 hours of life and then at age 7 days, the rise in creatinine and fall in estimated glomerular filtration rate (eGFR) were determined to identify babies with AKI.

**Results:** The prevalence of AKI was 14.7%. Sepsis and dehydration were found to be significantly associated with development of AKI. The overall hospital mortality of babies with AKI was higher (45.5%) compared to babies with no AKI (5.5%).

**Conclusion:** Sepsis and dehydration are significant risk factors for development of AKI in newborns, and mortality among sick newborns with AKI is higher than among those with no AKI.

#### PAN-LOS-149

##### **Urinary Tract Infection in Children with Cancers in Benin City, Nigeria**

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**Introduction:** Urinary Tract Infection (UTI) is a common cause of morbidity in children and its burden predicated on the resultant long-term sequelae of chronic kidney disease. This burden is expected to be higher in children with immunosuppressive conditions like cancers.

**Aim:** To determine the prevalence of UTI and the common pathologic organisms isolated in UTI in children with cancers in Benin City.

**Methods:** A cross-sectional study conducted at the Paediatric Oncology Ward of the hospital. Children with cancers over one year period, who were neither on antibiotics nor with any immunosuppressive conditions, were recruited. Clean-catch midstream urine was analysed. Urinary tract infection was defined as the presence of single organism equal to or greater than  $10^5$  colony-forming units per millilitre.

**Results:** Fifty-one subjects were recruited of which 7 (13.7%) had UTI. The mean age of the children was  $8.63 \pm 4.09$  years with male: female ratio of 2: 1. Only 2 (28.6%) of the subjects had symptoms of UTI (fever and pain on micturition). The commonest isolates were *Klebsiella pneumoniae* and *Proteus mirabilis* 2 (28.6%) respectively, followed by *Escherichia coli* 1 (14.3%) and others. UTI was significantly more common in children aged 11-15 years ( $X^2 = 7.50$ ,  $p = 0.02$ ,  $df = 2$ ) and in those with severe leucopaenia ( $X^2 = 7.84$ ,  $p = 0.02$ ,  $df = 2$ ) and severe neutropaenia ( $X^2 = 6.33$ ,  $p = 0.04$ ,  $df = 2$ ). **Conclusion:** UTI is common in children with cancers with few showing symptoms. Children aged 11-15 years and those with severe leucopaenia and neutropaenia had higher prevalence of UTI.

#### PAN-LOS-190

##### **Clinical Profile, Histopathologic Pattern, and Outcome of Children with Nephrotic Syndrome in Federal Teaching Hospital Gombe**

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**Background:** Nephrotic syndrome (NS) is the most common childhood chronic glomerulopathy affecting 2-6 children per 100,000.

**Aim:** To describe the paradigm shift in the clinico-epidemiological pattern of childhood NS.

**Methods:** A retrospective review of cases of NS admitted in the Paediatric ward from December 2017 to November 2023.

**Result:** A total of 32 cases were admitted with a prevalence of 2.8 per 1000 children (32/11616). The male and female were 23 and 9 respectively with a M : F of 2.6 : 1. The mean age was 8.4±4.2 years. Majority (38; 87.5%) were from low socioeconomic classes. The presenting complaints included body swelling (100%), reduced urine (78.1%), fever (31.3%), dyspnoea (15.6%) and vomiting (3.1%). The common physical examination findings included anasarca (96.9%), oliguria (78.1%), hypertension (53.15), and dyspnoea (15.6%). Majority were steroid sensitive (26; 81.3%); of these, steroid-dependent were (1; 3.8%), frequently relapsing (6; 23.1%), infrequently relapsing (14; 53.8%); steroid resistant was (6; 18.9%). Of the steroid-resistant group, all responded to cyclosporine. Majority (24; 75.0%) were atypical NS while (29; 90.7%) were idiopathic NS. Secondary causes included one case (3.1%) each of Hepatitis B, C, and schistosomiasis. The complications identified included AKI (10; 31.3%), pleural effusion (5; 15.6%), pulmonary oedema (5; 15.6%) and stunting (11; 34.4%). Out of the six that had renal biopsy, majority (5; 83.3%) had minimal change disease with only one reported to have membranoproliferative pattern. A total of 15 (46.9%) are currently on follow-up, 12 (37.5%) were lost to follow-up, 1 (3.1%) was discharged from the clinic, 1 was (3.1%) referred and 3 (9.4%) died. **Conclusion:** Nephrotic syndrome remains a common disease among the poor with a rising burden. The chronicity of the treatment is fraught with a great deal of loss to follow-up and LAMA. There is a need to monitor the height in poor patients who are on chronic steroids because of inability to procure Cyclosporine.

#### **PAN-LOS-193**

##### **Paediatric Acute Kidney Injury in a Tertiary Hospital in South-South Nigeria: A preliminary Study**

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**Background:** Acute kidney injury (AKI) in children often go unrecognised in resource-limited settings and is a major contributor to morbidity and mortality. It is

necessary to define the epidemiology of acute kidney injury in referral hospital settings were none exists.

**Aim:** To determine the pattern of acute kidney injury among children admitted into the Children's Emergency Room of Rivers State University Teaching Hospital (RSUTH).

**Methods:** Review of all paediatric cases that presented to the children's emergency room of the department of Paediatrics RSUTH, between 1st October 2020 and 31<sup>st</sup> October 2023. AKI was defined according to KDIGO. Patients' data retrieved included age, sex, presenting symptoms, diagnosis, blood pressure, urine output, blood chemistry, treatment received and outcome.

**Results:** Of the total of 2865 admissions, 43 cases of AKI were seen, giving an incidence of 15.0 per 1000 children with 38 (88.4% being community-acquired). The mean age was 5.8±5.2 years (range: 2 months and 16 years) and 27 (63.2%) were males. AKI was present in 38 (88.4%) at presentation and 20 (46.5%) presented with KDIGO Stage III. The top four causes were: sepsis 16(37.2%), Primary renal diseases (9; 20.9%), malaria (8; 18.6%), and gastroenteritis (5; 11.6). The primary kidney diseases included post-infectious glomerulonephritis (7; 77.8%), and nephrotic syndrome2(22.2%). Whereas most were managed conservatively, the 7 (16.3%) requiring dialysis had it. Overall, mortality occurred in 7 (16.3%) children.

**Conclusion:** AKI is common among children admitted to the Children Emergency Room of RSUTH. Early presentation, routine screening for AKI and prompt treatment of underlying causes are imperative to curb disease progression.

#### **PAN-LOS-224**

##### **Clinical Profile and Outcome of Children with Acute Glomerulonephritis Admitted in Federal Teaching Hospital Gombe- A 5-Year Review**

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**Background:** Acute glomerulonephritis (AGN), the commonest non-suppurative tropical and sub-tropical, remains a major contributor to renal cause of morbidity and mortality. Regional and temporal variations are characteristic.



**Methods:** A retrospective review of cases of AGN admitted in the Paediatric Medical Ward from November 2017 to November 2023.

**Results:** The prevalence of AGN was 8.3 cases per 1000 admission (49/5923). The male-to-female ratio was 1.5:1 (29 males vs 20 females) with a mean age of  $9.37 \pm 3.84$  years. Majority (30; 61.2%) were from low social class and 65.3% (32/49) were referrals. Majority (31; 63.3%) presented between September to January. Overcrowding (35; 71.4%), poor ventilation (32; 65.3%), polygamy (19; 38.8%) and consanguinity (17; 34.7%) were identified associations. The common symptoms included body swelling (45; 91.8%), oliguria (33; 67.3%), fever (30; 61.2%), and coke-coloured urine (27; 55.1%). Sore throat and rash occurred in 24.5% and 22.4% respectively. Most consistent signs included hypertension (42; 85.7%), and oedema (39; 79.6%). Common complications included acute kidney injury (22; 44.9%), congestive cardiac failure (15; 30.6%), and hypertensive encephalopathy (12; 24.5%). The outcomes in 42 (85.7%), 4 (8.2%), and 3 (6.1%) children with AGN were discharge, death, and DAMA respectively. Majority (43; 87.8%) had conservative management while (2; 4.1%) had haemodialysis, and peritoneal dialysis each, and 4.1% had ICU admission. Pulmonary oedema ( $p = 0.005$ ), congestive cardiac failure ( $p = 0.034$ ), and uraemic encephalopathy ( $p = 0.030$ ) were significantly associated with mortality.

**Conclusion:** Acute glomerulonephritis remains a renal disease associated with low socioeconomic status and complications such as pulmonary oedema, congestive cardiac failure and uraemic encephalopathy are associated with in-hospital mortality.

## NEUROLOGY

### PAN-LOS-024

#### Inter-Ictal Electrocardiographic Features and Heart Rate Variability in Children with epilepsy at the University College Hospital, Ibadan

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**Introduction:** Epilepsy is a major public health challenge in developing countries, with numerous comorbidities, including cardiac comorbidities.

Mortality due to cardiovascular dysfunction is higher in patients with epilepsy, with impaired cardiac autonomic function assessed by heart rate variability contributing to the risk of sudden unexpected death in epilepsy. The contribution of cardiac dysfunction to the associated morbidity and mortality in children living with epilepsy (CWE) remains uncertain in Nigeria.

**Aim:** To describe the electrocardiographic (ECG) features and assess the heart rate variability (HRV) of children with epilepsy.

**Methods:** This hospital-based case-control study of 80 children with epilepsy and 80 age- and sex-matched controls aged 5-15yrs, evaluated for inter-ictal ECG features using a 12-lead ECG. Heart rate variability (HRV) was tested via 5-minutes ECG monitoring and time domain parameters and frequency domain parameters were assessed in both groups.

**Results:** Twenty-one (26%) of the 80 children with epilepsy had ECG abnormalities compared to 11 (14%) of their controls, which was statistically significant, and left ventricular hypertrophy was the commonest abnormality seen. The proportion of LVH was 18 (22.5%) in cases and significantly higher than in controls ( $p = 0.032$ ), although all the study participants had normal echocardiographic examinations. There were no differences in mean ECG intervals between cases and controls. There was no difference in both time domain and frequency domain parameters of HRV in cases when compared to controls. However, children with younger age at diagnosis had higher LF compared to older children, while children with remote symptomatic epilepsy had lower HF compared to their idiopathic counterpart.

**Conclusion:** The presence of epilepsy does not appear to increase the risk of cardiovascular morbidity in children with epilepsy.

### PAN-LOS-027

#### Congenital Insensitivity to Pain in a 2-Year-Old Girl: A Case Report and Review of Literature

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**Introduction:** Congenital insensitivity to pain (CIP) is a very rare genetic disorder that affects the ability to experience physical pain from birth. Affected people cannot feel pain in any region of their bodies. This lack of pain perception can lead to an accumulation of

injuries and health conditions that can reduce the life expectancy over time.

**Aim:** To report a case of CIP seen in a 2-year-old girl, highlighting the difficulties in diagnosing this condition, emphasizing the need for careful history taking and physical examination.

**Case Summary:** We describe a 2-year-old female who presented with complaints of developmental delay and repeated self-inflicted injuries. On examination, she had deformed fingers on both hands with missing distal phalanges with hyperpigmented healed contracture deformities. She also had ulcers at different stages of healing on her lower limbs as well as a healed scar with residual defect on the left lateral aspect of the lower lip with missing lower incisors and canines. Neurologic examination revealed a generalized absence of pain and temperature sensation. We made a clinical diagnosis of congenital insensitivity to pain. She received parenteral antibiotics with multidisciplinary management and her parents were counselled extensively on her condition. She made good clinical response and had complete healing of the wounds after three weeks.

**Conclusion:** Although children with developmental delays are at risk of non-accidental injuries, careful history taking and physical examination may identify uncommon diagnoses like CIP early and prevent worsening disabilities and increased risk of death.

#### **PAN-LOS-037**

##### **Increased Screen Time and Worsening Hyperactivity in ASD and ADHD Co-Morbidity Among Children: A Review**

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**Introduction:** In recent times, Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactive Disorder (ADHD) are both increasing in prevalence and commonly occur as co-morbid conditions. With the advancement of science and technology, children are exposed to electronic products at a younger age and their screen time is increasing. This study proposes that an escalation in screen time among children diagnosed with ASD and ADHD is positively correlated with a worsening of hyperactivity, suggesting a potential link between prolonged digital media use on attentional difficulties within this specific demographic.

**Aim:** To bridge the knowledge gap around the paucity of research that highlights awareness about the co-occurrence of both conditions in children.

**Methods:** The main research method for this review is extensive scientific literature reading and summarization of ideas, findings, hypotheses, and conclusions from various studies. Scientific papers were retrieved from PubMed, NCBI, and other databases.

**Result:** Excess screen time-induced hyperactivity worsening in ADHD and ASD is indirectly engendered by Poor Sleep patterns and Reduced Physical activity. Likewise, increased screen time does not have a direct causal effect on worsening hyperactivity in children with ASD and ADHD.

**Conclusion:** While increased exposure to screens does not have an aetiological relationship with both neurodevelopmental disorders, it has been found that it could account for the exacerbation of externalizing and inattention symptoms in both disorders.

#### **PAN-LOS-067**

##### **Prevalence and Factors Associated with ADHD Among Children with Epilepsy at the Jos university Teaching Hospital**

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**Introduction:** The prevalence of ADHD is higher among children with epilepsy than in the general population. This may be due to shared underlying brain pathology, as well as the effects of chronic seizures and Anti-Epileptic drugs on the developing brain.

**Aim:** To determine the prevalence of ADHD and its predictors among Children with Epilepsy (CWE) compared to their age- and sex-matched controls.

**Methods:** A cross-sectional comparative study of 82 CWE attending the Paediatric Neurology Clinic of Jos University Teaching Hospital, Jos and their age and sex-matched controls. ADHD was assessed using the DSM V criteria.

**Results:** The prevalence of ADHD among CWE (36.6%) vs (7.3%) among controls ( $p < 0.001$ ). Age at the onset of epileptic seizures ( $p = 0.043$ ), age at enrolment into the study ( $p = 0.002$ ) and antiepileptic drugs ( $p = 0.007$ ) were associated with ADHD while first presentation between age 5 – 10 years ( $p = 0.009$ ) and treatment with carbamazepine ( $p = 0.01$ ) and

sodium valproate ( $p = 0.001$ ) were independent predictors of ADHD.

**Conclusion:** ADHD is significantly higher among CWE than in the general population. This is particularly so among those who present late and those treated with carbamazepine or sodium valproate.

#### PAN-LOS-164

##### **Perception and Practice of Home Management of Febrile Seizures Among Mothers in Calabar**

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**Introduction:** Febrile seizure is a common neurological emergency in the paediatric age groups. Though usually benign and self-limiting, they can be distressing for caregivers. Knowledge and attitude of caregivers influence the intervention given; this has been shown to impact outcomes.

**Aim:** To assess the knowledge, attitude, and practice of febrile seizures among caregivers in Calabar, Nigeria.

**Methods:** A descriptive, cross-sectional study among mothers seen at the Children Outpatient Department of the University of Calabar Teaching Hospital and three Primary Health Centres in Calabar. Data was collected on demographic characteristics, knowledge, attitudes and, practices on febrile seizures, using a pre-tested interviewer-administered questionnaire.

**Results:** A total of 223 respondents were recruited with a mean age of  $32.70 \pm 7.14$  years. Among the respondents, 61% have some knowledge of febrile seizures. Forty-nine (49%) of mothers correctly noted that the convulsion occurred due to high fever in children, 12.4% attributed it to witchcraft or demonic attack while 8.8% said it was the same as epilepsy. Thirty-two (32%) of caregivers would administer at least one form of intervention believed to be capable of aborting the seizure at attack at home, including the application of palm kernel oil on the body (13.5%), application of substances to the eyes (2%) and burns applied on the feet (1.2%). Ten (10%) of the respondents will put a spoon into a convulsing child's mouth. There was no statistically significant relationship between harmful cultural practices and the socioeconomic class of the mothers.

**Conclusions:** The knowledge of febrile seizures among mothers in Calabar is fair, however, interventions with harmful traditional practices remain a challenge. We recommend intensifying community-

based health education to improve outcomes and reduce the morbidity associated with febrile seizures in the locality.

#### PAN-LOS-172

##### **Pattern and Outcome of Paediatric Neurological Emergencies at the Benue State University Teaching Hospital, Makurdi - A 5- Year Review**

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**Introduction:** Neurological emergencies are the most common life-threatening conditions seen in the paediatric emergency unit and often times results in devastating short- or long-term consequences. Specific data on paediatric neurological emergencies are absent in our environment.

**Aim:** To describe the pattern and outcome of neurological emergencies seen in the emergency paediatric unit of Benue State University Teaching Hospital, Makurdi.

**Methods:** This was a 5-year (from January 2017 to December 2021) retrospective review of records of all children aged 1 month to 16 years admitted to the emergency paediatric unit.

**Results:** Two hundred children with neurological emergencies were admitted during the study period, constituting 10.8% of the total admissions (1860) with a Male: Female ratio of 1.6:1. Majority of the patients belonged to the age group 1-5 years (53.5%). The three most common presenting symptoms were convulsions (80.5%), fever (79%), and loss of consciousness (21%). Meningitis (28.5%) was the most common diagnosis followed by febrile convulsions (25%) and cerebral malaria (22%). Majority of them were discharged 149 (74.5%), while 14 (7%) were referred, 18 (9%) DAMA, and 19 (9.5%) died. More than half of the deaths occurred within 72 hours of admission and among children  $\leq 5$  years of age (73.7%).

**Conclusion:** The prevalence and pattern of neurological emergencies in this study showed that meningitis and febrile convulsions were the commonest, especially among children under 5 years of age. The high mortality rate observed in this age group indicates that preventive measures should be intensified.

**PAN-LOS-186**

**Cerebral Palsy in Ibadan, Nigeria: Risk Factors and Co-morbidities**

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**Introduction:** Cerebral palsy (CP) is the most common motor disability in childhood. The risk factors for CP are constantly evolving with changing epidemiological indices and improvements in healthcare. This study aimed to describe the profile of children with cerebral palsy attending the paediatric neurology clinic of the University College Hospital, Ibadan.

**Methods:** This was a cross-sectional study. Children and adolescents with CP attending the paediatric neurology clinic of the University College Hospital were enrolled using the CNSN National CP registry. Risk factors, degree of motor disability and associated impairments were described in the study population.

**Results:** Two hundred and twenty-three (223) children were enrolled over a 3-year period. One hundred and forty (62.8%) were male with a median age of 18 months (range 3 to 240 months). One hundred and forty-seven (65.9%) children were GMFCS classes IV and V. The commonest risk factor identified was severe perinatal asphyxia which affected 148 (66.4%) of the children. This is followed by bilirubin encephalopathy in 51 (22.9%) participants. Ninety-six (43.0%) had epilepsy which was the most prevalent co-morbidity seen.

**Conclusions:** Severe perinatal asphyxia remains the most prevalent risk factor associated with cerebral palsy. This implies that maternal and perinatal care still requires major interventions to improve outcomes in Nigerian children.

**PAN-LOS-204**

**Prevalence of Autism Spectrum Disorder and Associated Factors in Obio - Akpor LGA, Rivers State**

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**Introduction:** Autism Spectrum Disorder (ASD) includes a group of neurodevelopmental disorders characterised by deficits in social communication and interactions along with restrictive, repetitive patterns of behaviours, interests and activities. ASD is found in all racial, ethnic and socioeconomic groups. The

prevalence of ASD over the years appears to be increasing.

**Aim:** To determine the prevalence of ASD amongst toddlers and associated factors in Obio-Akpor LGA.

**Methods:** This was a cross-sectional study carried out in Obio-Akpor LGA. A multistage sampling technique was used to recruit toddlers from nine settlements. The diagnosis of ASD was made using the DSM-V and a semi-structured questionnaire was used to obtain relevant data.

**Results:** A total of 1,539 toddlers were screened. The male to female ratio was 1.2:1. Twenty-one (1.4%) children had autism spectrum disorder using the DSM -V. The age distribution of the parents of the children with ASD using DSM-V was statistically significant among the fathers as 13(2.5%) of them were above 35 years. Other factors associated with ASD included neonatal jaundice, mothers age >35 years, family history of ASD (p = 0.765, 0.090, 0.092 respectively).

**Conclusion:** The prevalence of ASD of 1.4% using DSM-V was low.

**PAN-LOS-205**

**Challenges of Management of Children with Epilepsy in a Tertiary Health Centre, South-East Nigeria**

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**Introduction:** Epilepsy is the commonest chronic neurologic disorder in children affecting about 10.5 million children in the world. Despite advances in epilepsy care worldwide, epilepsy is still considered by many in our environment as medically incurable and this mindset influences choice of care.

**Aim:** To identify the challenges encountered in the care of these children.

**Methods:** This was a descriptive, cross-sectional, retrospective study of children with epilepsy (CWE) presenting in the Paediatric Neurology Clinic of Nnamdi Azikiwe University Teaching Hospital, Nnewi. The study was carried out in 2022.

**Results:** Eighty patients presented with childhood epilepsy with a slight male preponderance (55.1%). About 70% of the study participants used forms of unorthodox home therapies like herbal concoction, crude/olive oil, and mothers' urine. Educational status of the caregivers was directly related to their choice of first point of care outside the home. About 26% presented in the first six month, while approximately

15% presented within two years of onset of seizure. Other identified challenges to care of CWE include late referral by primary or secondary health care provider, self-medication, non-compliance to therapy, financial constraints, and caregiver's beliefs and perceptions.

**Conclusion:** The need for CWE in our environment to benefit from the tremendous progress in the social and clinical management of epilepsy that has been achieved in advanced societies cannot be overemphasized.

#### PAN-LOS-252

##### **Predictors of Age at Diagnosis and Challenges of Management of Autism Spectrum Disorder in Southern Nigeria**

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**Introduction:** Autism spectrum disorder (ASD) is a neurodevelopmental disorder, which manifests as restricted, repetitive, and stereotyped patterns of behaviours, interests, or activities. Early diagnosis is important for prompt institution of therapeutic interventions for an improved outcome.

**Aim:** To determine the predictors of age at diagnosis of ASD in Port Harcourt. **Methods:** Using a convenient sampling method, a cross-sectional, descriptive study was carried out between October 2019 and March 2023 in UPTH. Eighty-six patients who met the criteria using the DSM-V were consecutively recruited for the study. A structured questionnaire was used to obtain the sociodemographic information as well as the clinical details of the study participants.

**Result:** A total of 1476 patients were seen in Paediatric Neurology Clinic within the period. Males were 518 (35.1%) while 86 patients had ASD giving a prevalence of 5.8%. Of the 518 males, 60 (11.6%) of them had ASD, compared to the 26 (2.7%) of the 932 females giving a male to female ratio of 2.3: 1. This sex difference is significant ( $p = 0.001$ ,  $OR = 4.69$ ,  $CI = 2.92-7.54$ ). The onset of symptoms was in the first two years of life in 89.5% of subjects, with a mean age at diagnosis of  $5.06 \pm 1.06$  years. The mean time lag from the onset of symptoms to diagnosis was 36 months. The age at diagnosis was significantly determined by birth order, socio-economic class and presence of a co-morbid state. (Fisher exact  $< 0.0001$ ).

**Conclusion:** ASD is common, with males more affected. Symptoms are usually noticed early but presentation for early intervention is delayed. There is need to create awareness so as to ensure early diagnosis and prompt intervention for a better outcome.

#### PAN-LOS-257

##### **Quality of Life in Caregivers of Children with Cerebral Palsy in Rivers State, Nigeria**

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**Introduction:** Cerebral palsy (CP) is a common neurologic disorder which leads to physical disability in children. Children with CP require more care and attention from their care givers. Hence the quality of life (QoL) of the care givers can be adversely affected. **Aim:** To assess the QoL and its determinants among caregivers of children with CP in Port Harcourt, Nigeria.

**Methods:** Using a convenience sampling method, a hospital based, cross-sectional, descriptive study was carried out with participants who were 96 caregivers of children on follow up for CP. The English Version of the World Health Organization Quality of Life-Bref (WHOQOLBref) was used to evaluate the QoL of the participants. A structured questionnaire was used to obtain socio-demographic characteristic of the participants and children with CP, while the patients hospital record was used to obtain the clinical features of the patients. The functional disability level of the child was measured by the Gross Motor Function Classification System (GMFCS levels I-V) scale.

**Result:** The age of the of the participant ranged from 23-58 years with a mean age of  $37.67 \pm 8.27$  years. Majority (81.3%) were females, 80% had secondary education and above. Fifty-six (58.3%) of the CP patients had co-morbidity. The care givers had lower level of QoL  $< 60$  points in all domains except for Physical Health Domain which had mean point of 61.3. The GMFCS level of the children with CP significantly determined different domains of the caregivers QoL ( $p \leq 0.05$ ). Age of care giver ( $p < 0.001$ ), presence of comorbidity ( $p = 0.03$ ) significantly predicted the psychological domain of the QoL of the care givers. In addition, the socioeconomic class significantly predicts the environment and psychological domain of the caregivers QoL. ( $p < 0.05$ ).

**Conclusion:** The quality of life in caregivers of children with cerebral palsy is low. The predictors include GMFCS level of the patient, age of the caregiver, marital status, presence of comorbidity and socioeconomic status.

## PULMONOLOGY

### PAN-LOS-244

#### **Feasibility of Profiling Source Activities and Pattern of Household Air Pollution (Particulate matter less than 2.5 and carbon monoxide) of Children with Asthma in Urban Lagos: A Pilot Report**

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**Introduction:** Asthma is increasing in developing countries like Nigeria due to urbanization, vehicular and cooking activities. Control of air pollution (AP) - household (HAP) or ambient (AAP)- depends on objective measurement of pollutants like particulate matter with aerodynamic diameter less than 2.5 microns (PM<sub>2.5</sub>) and carbon monoxide (CO).

**Aim:** To explore the feasibility of profiling PM<sub>2.5</sub> and CO in homes of asthmatic children in Lagos.

**Methods:** Consenting parents were given an activity diary and a bag containing a PM<sub>2.5</sub> sensor (Purple Air sensor, USA) connected to a 30,000mAh power bank and a CO logger (Lascar, UK) for 3-day home-readings. Devices were retrieved and the data were extracted.

**Results:** Of 10 participant-households, CO logger malfunctioned in 4 while PM<sub>2.5</sub> logging failed in 3. All 10 cook with gas. Average peak PM<sub>2.5</sub> and peak CO range was 36.3-249.1 microgram/m<sup>3</sup> and 0.2-77.5 mg/m<sup>3</sup>, respectively. Average mean PM<sub>2.5</sub> range was 7.4-115.8 microgram/m<sup>3</sup>, exceeding WHO's 24-hour mean limit of 15 microgram/m<sup>3</sup> in 6 of 7 homes; average mean CO range was 0.2-11.4mg/m<sup>3</sup>, with only 1 of 6 homes exceeding WHO's 24-hour mean CO level of 4mg/m<sup>3</sup>. Average proportion of times PM<sub>2.5</sub> and CO exceeded WHO limits ranged from 1.6-100%, (100% in 3 of 7 homes) and 9.5-62%, respectively. Peak PM<sub>2.5</sub> and CO levels occur mostly in the morning and at night, coinciding with periods of cooking and generator use.

**Conclusion:** This result suggests high levels of HAP, the major sources being cooking (even with gas) and generators. Objective measurement of HAP provides potential opportunity for counselling caregivers on HAP-reduction measures.

### PAN-LOS-254

#### **Syndrome of Inappropriate Antidiuresis Among Children Hospitalised for Pneumonia in University of Ilorin Teaching Hospital: Prevalence and Admission Outcome**

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**Introduction:** Syndrome of Inappropriate Antidiuresis (SIAD) is a well-recognized possible complication of many clinical conditions including pneumonia. However, the burden of SIAD in children with pneumonia has not been well studied.

**Aim:** To determine the prevalence and admission outcome of SIAD among children hospitalised for pneumonia.

**Methods:** A descriptive, cross-sectional study was conducted on 101 children, aged one month to 14 years, admitted for pneumonia. Relevant information on sociodemographic, anthropometric and clinical parameters were obtained through a semi-structured study proforma. The requisite blood and urine samples were also taken for analysis.

**Results:** The median (IQR) age of the subjects was 13.0 (5 - 30) months. The male/female ratio was 1.9:1. Seventeen (16.8%) subjects had SIAD, of which eleven were males and six were females. Overall, two subjects died, both had SIAD. Survivors with SIAD had longer median (IQR) duration of hospitalisation (7 (3 - 15) days) compared with those without SIAD [3 (2 - 6) days];  $p = 0.016$ ]. **Conclusion:** This study shows that SIAD is common in hospitalised children with pneumonia, and it is associated with adverse admission outcome.

### PAN-LOS-255

#### **Assessment of Inhaler Technique of Healthcare Workers in Port Harcourt, Nigeria**

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**Introduction:** Pressurized metered dose inhalers (pMDIs) are the bedrock of asthma management. Its effectiveness is dependent on proper use. About 90% of asthmatics have poor inhaler technique. Therefore,

healthcare professionals must know and teach proper pMDI technique as a key tool to improving asthma outcomes.

**Aim:** To assess inhaler technique instructions given by healthcare workers to asthmatic patients.

**Methods:** This study was carried out among doctors, nurses, and pharmacists who attended a workshop on asthma care training in Port Harcourt, Nigeria, using an interviewer-administered questionnaire that assessed stepwise instructions given by healthcare workers on how to use a pMDI.

**Results:** Majority of the respondents were doctors (43; 71.7%), while nurses and pharmacists comprised 14 (23.3%) and 3 (5%) respectively. Most health workers 59 (98.3%) correctly demonstrated the first step in using an inhaler. which is taking off the cap and holding the canister upright. The steps that were less frequently communicated were, the correct position of the head, to tilt it slightly backward (8; 13.3%), followed by, emptying the lungs by exhaling before taking a puff (9; 15.0%) and holding the breath for at least 5- 10seconds after removing the canister from the mouth (10; 16.7%).

**Conclusion:** The suboptimal quality of instructions given by health workers for pMDI use portends danger, as it would invariably lead to poor inhaler technique in patients and poor asthma outcomes. There is need to regularly train healthcare professionals on proper inhaler techniques, to enable them teach their patients, as a key tool to reducing morbidity and mortality from asthma.

## RHEUMATOLOGY

### PAN-LOS-102

#### **Granulomatosis with Polyangiitis: A Case Report**

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**Background:** Granulomatosis with polyangiitis (GPA) formerly known as Wegener's granulomatosis was first described by German pathologist Friedrich Wegener in 1936. It is a multi-systemic, ANCA-associated necrotizing non-caseating granulomatous vasculitis that affects small to medium-sized vessels. It can involve any organ system, most commonly the lungs and kidneys. GPA occurs with a prevalence of

24–152:1000000. The disease affects all races at every age. Various factors may have an impact on the aetiology of GPA which is treated as an autoimmune disease. Mostly, GPA affects the upper and lower respiratory tracts and kidneys and is associated with otorhinolaryngological and renal manifestations. However, numerous untypical manifestations may also occur. The diagnosis of GPA is achieved through clinical assessment, serological tests for anti-neutrophil cytoplasmic antibodies (ANCA) which is seen in 90% of patients and histological analysis.

**Case Summary:** The patient was a 14-year-old male adolescent with a history of multiple skin ulcers of five months duration, recurrent fever, cough of four months duration, and fast breathing of eight days duration. There was also a history of one episode of generalized seizure, purulent nasal discharge and haemoptysis. On examination, he was acute on chronic ill-looking, dyspnoeic, pale, febrile. Complete blood count done showed leucocytosis with neutrophilia, ESR was markedly elevated, chest radiography showed widespread reticular opacities in both lung fields and round shaped cavitory lesion in the upper lobe of the left lung field, while urinalysis showed proteinuria and haematuria. Anti-neutrophil cytoplasmic antibodies (c-ANCA) was also positive.

**Conclusion:** Granulomatosis with polyangiitis is a rare clinical condition; making the diagnosis requires a high index of suspicion because it can mimic other vasculitis, autoimmune diseases and also tuberculosis.

### PAN-LOS-167

#### **A Case Report of Childhood Polyarteritis Nodosa**

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**Introduction:** Polyarteritis nodosa (PAN) is a rare systemic necrotizing vasculitis of the medium-sized arterial vessels and small-sized arterial vessel.

**Case Summary:** A 3-year-old girl with a six-month history of recurrent low-grade fever, generalized tender skin swellings and generalized body itchy rashes. She had associated body weakness, body pains, weight loss, poor appetite and inability to walk due to body pains/joint pains. Had no joint swelling. Symptoms developed one week after transfusion in a peripheral hospital following an acute febrile illness. On examination, she was in painful distress, with cutaneous lesions of tender hyperpigmented discrete

multiple subcutaneous nodules about 3 × 3cm, livedo reticularis, itchy macular papular rashes all over the body, erythematous on the soles and palms, dry gangrene of the right thumb and index, left little finger; myalgia; arthralgia, hypertensive; blood pressure (BP) of 130/90mmHg (> 95th percentile). Urinalysis showed haematuria ++, proteinuria++, Full Blood Count: leucocytosis = 19.9 x10<sup>3</sup>u/L, predominantly monocytosis of 10.7%, elevated erythrocyte sedimentation rate (ESR) = 130mm/hr, and a normal Chest radiograph. Hepatitis B, Anti hepatitis C and Retroviral screening were non-reactive, skin biopsy showed leukocytoclastic vasculitis with fibrinoid necrosis in the dermal vessels. She was commenced on prednisolone 1mg/kg/day 2DD, loratadine 5mg daily, antibiotics and analgesics. She had relief of symptoms within 24-36 hours of therapy. The skin lesions regressed in size and disappearing, no tenderness, nor

itchy. The gangrened fingers showed line of demarcation after five days of treatment. The child had amputation of the first interphalangeal joint of the left little finger 12 days later with fibrosis of the right of the index and middle fingers, and by the end of the second week of treatment, the BP and urinalysis findings were normalizing, and she was discharged. At the end of the fourth week on follow up, BP (88/56 mmHg), urinalysis, FBC = 5.8 x10<sup>3</sup> u/L and ESR = 11mm/hour were normal hence, she was continued on tapered dose of prednisolone at 0.5mg/kg daily. She remained stable on maintenance dose of steroids with no relapse.

**Conclusion:** Although diagnosis was delayed, overall, response to steroid therapy was excellent. High index of suspicion is needed to reduce morbidity, prevent complications and achieve good outcome.