

ABSTRACTS OF THE NIGERIAN THORACIC CONFERENCE NOVEMBER 2022

1A

Symptoms and physiological parameters of obstructive sleep apnoea patients diagnosed with a portable sleep monitor: implications and challenges

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Introduction: Obstructive sleep apnoea is a chronic, debilitating condition that if left undiagnosed and untreated is associated with adverse clinical events. The watch PAT is a portable wrist-worn sleep study device that uses peripheral arterial tonometry with pulse oximetry and Actigraphy to assess respiratory disturbances. Unlike other level 111 sleep monitors, it measures actual sleep time, distinguishes between REM and Non-REM sleep stages, and thus generates actual Apnoea hypopnea index. The study was done to assess symptoms of obstructive sleep apnoea, evaluate physiological parameters recorded by the sleep monitor and highlight changes encountered in deploying the monitor for diagnosis of sleep apnoeas.

Methods: It was a cross-sectional study. A structured questionnaire was administered to all patients to obtain data regarding their symptoms, comorbidities and sociodemographics. Sleep study was conducted using watch PAT portable monitor. Data were entered first on excel and analysed.

Results: Thirty eight participants, mean age 49±14 years (17 to 76 years) undertook the sleep study; 73.7% of whom were females. Thirty six (94.7%) of them were diagnosed with OSA. Eighteen (50%), nine (25%) and nine (25%) had severe, moderate and mild OSA respectively. The most frequent symptom was abrupt awakening accompanied by gasping or choking at night (65.8%) followed by non-refreshing sleep (60.5%), sleep fragmentation (55.3%), nocturia (55.3%) and depression (52.6%), memory loss, decreased libido, awakening with a dry mouth or sore throat, night time sweating, difficulty concentrating during the day occurred in 50% or less of the participants. Memory loss occurred significantly among those with severe OSA compared with mild and moderate OSA ($\chi^2=9.920$, p value =0.007). The most common comorbidity among the participants was hypertension 24(63.1%). Seventeen participants (44%) had excessive daytime somnolence (EPSS>10) and 50% had high risk of OSA(STOPBANG≥5). Those with severe OSA recorded the lowest minimum pulse (median 42.5bpm, IQR 39.3-51.8), highest maximum pulse (median 130bpm, IQR 114-138) and lowest minimum SpO₂ (median 70%, IQR 64.3-80.3) among other physiological parameters. Supine sleep position accounted for the longest mean % of time slept in a particular position (63.2%) while those with severe OSA had reduced mean percentage of REM sleep (14.6%) compared to moderate (25.1%) and mild (16.1%). Not all patients were able to procure a CPAP machine and or mandibular advancement device prescribed as needed.

Conclusion: Diagnosing of OSA objectively using a portable sleep monitor such as WatchPAT is feasible. Abrupt awakening accompanied by gasping or choking at night (65.8%) was the commonest symptom

among those diagnosed with OSA. Physiological parameters obtained from the monitor provide the clinician the requisite information with which to persuade patients of a need for intervention. However cost of CPAP machine and mandibular advancement device delayed immediate intervention.

Keywords: obstructive sleep apnoea, sleep study, watchPAT

1B

Gaps in asthma care in Port Harcourt Nigeria: cross-sectional report of healthcare workers

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Introduction: Asthma is a leading chronic respiratory disease among adults and children. Unfortunately, due to asthma care gaps, the outcome of patients is poor, especially in low-income countries like Nigeria. This study aimed to identify asthma care gaps in knowledge and clinical practice among healthcare providers.

Methods: This study was among healthcare providers in Port Harcourt using a questionnaire that assessed knowledge of asthma, clinical practice, and quality of chronic asthma care.

Results: Sixty-two healthcare workers from 25 different healthcare facilities consisting of Primary health care centers 6(24%), General hospitals 10(40%), Private hospitals 6(24%), and Tertiary hospitals 3(12%) were interviewed. The majority of health facilities had nebulizers 21(84%) while only 8 (32%) had at least one supportive investigation for asthma. Only 31(50%) of them knew all the four cardinal symptoms of asthma, the medication most commonly used in acute asthma care was salbutamol nebuluses 55(88.7%) while 41(87.2%) discharged patients on a treatment plan. The use of parenteral salbutamol for acute asthma was reported by 42(67.7%) with a higher likelihood among those who managed children aged 6-12years (OR: 9.0, 95% CI: 1.08, 74.7 p=0.03). Asthma control was reported to be assessed adequately by 17(36.2%) while inhaler technique was routinely taught to patients by 29(61.7%).

Conclusion: Gaps in asthma care were identified in health facilities amenities, healthcare providers' knowledge, and practice. It is recommended that training and retraining of health workers be carried out regularly and health facilities should be equipped to enable optimal care of asthmatic patients.

Keywords: Asthma, Quality of care, Control assessment, health care facilities, knowledge

1C

Assessment of Asthma symptoms, severity and diagnosis amongst students in secondary schools in Lagos, Southwest Nigeria

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Introduction: The prevalence of asthma has been on the increase worldwide. In Nigeria, the ISAAC (International Study of Asthma and Allergies in Childhood) study showed an increase from 10.7% in phase

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one to 13% in phase three amongst 13-year-olds.

The study also showed more severe symptoms in less developed countries. The Achieving Control of Asthma in Children in Africa (ACACIA) funded by NIHR and in Collaboration with Queen Mary University London) aimed to identify children in the age group 12-14 with asthma symptoms and obtained information about the diagnosis and control.

Methods: Data was collected from 12-14-year-olds in urban schools in Lagos Southwest Nigeria. Screening was done with the ISAAC questionnaire (breathing survey). Those with current asthma symptoms (wheeze in the last 12 months) and/or "asthma ever" were recruited to complete the ACACIA survey, undergo spirometry, and performed exhaled nitric oxide (FeNO) testing.

Results: Ten thousand seven hundred and thirty-one (10,731) students were screened from 34 secondary schools with 10341 having useable data. Asthma symptoms was positive in 1555(15.05%) of the participants. Wheeze in the last 12 month was present in 1530 (98.4%) participants. Only 169 (10.9%) of the 1555 had doctor diagnosed asthma with 145(69.8%) of those with asthma diagnosis given by doctor symptomatic. ISAAC- defined severe symptoms occurred in 1086(69.8%). Amongst those with doctor diagnosed asthma 120 (71%) have ISAAC defined severe symptom.

Conclusion: There is high proportion of students with severe asthma symptoms in schools in Lagos, Nigeria and they are largely undiagnosed. Those with diagnosis are poorly controlled and symptomatic. There is need for community/school-based asthma screening to aid early diagnosis and treatment. Capacity building on asthma diagnosis and treatment in the primary health care setting is also recommended.

Keywords: Asthma, severity, students, schools

1D

Towards an Appraisal of Quality of life among asthmatic children and their caregivers in Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto, Nigeria

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Background: Asthma is a common respiratory disease which has become a widespread chronic health problem affecting all age groups especially children. The burden of asthma on patients, families, health care system and government is increasing globally. It causes a negative impact on the daily activity of children and their caregivers, thus putting serious burden on the child's and parent's health-related quality of life (HRQoL). The aim of this study was to assess the health-related quality of life amongst asthmatic children and their caregivers and to determine the relationship (agreement level) between the children's QoL self-report and the parents' QoL proxy-report.

Methods: A cross-sectional, hospital-based study was conducted on 80 asthmatic children (aged 7-15 years) and their caregivers within a period of 4 months. Relevant biodata, socio-demographic and anthropometrics information was recorded in a study proforma; diagnosis was based on

Global initiative for asthma (GINA) criteria. Quality of life (QoL) was assessed with a standardized paediatric asthma and caregiver QoL questionnaire (PAQL, PACQL) respectively. Handheld spirometer was used to assess lung function and data was analysed using SPSS version 22. **Results:** Adolescents made up of 48.8% of the subjects with male: female of 1:1.35. Seventy- six (95%) of the caregivers were the subjects' mothers. The mean QoL scores for asthmatic children and their caregivers were 5.29 ± 1.12 and 5.11 ± 1.19 respectively, both of which connoted mild impairment in their QoL (good). Forty- eight (60%) of the subjects and 50 (62.5%) of the caregivers had good QoL while 32 (40%) of the subjects and 30 (37.5%) of the caregivers had poor QoL. Symptoms and activity limitation domain was significantly impaired among the asthmatic children and the caregivers respectively.

Quality of life among asthmatic children was positively correlated (strong agreement) with caregivers QoL ($r=0.67$, $P=0.000$).

Conclusion: Assessment of QoL is a useful tool in monitoring asthmatic children, which may help in effective management of asthma and integration of family intervention into asthma care. Improving the QoL among asthmatic children will improve the QoL among their caregivers who are important elements of asthma home care.

Keywords: Asthma, quality of life, care givers, children

1E

Reference FEV₁ of healthy Nigerian children aged 6-11 years using an electronic peak flow meter: comparison with GLI-2012 African American equations

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Background. Spirometric reference equations assists the diagnosis, monitoring and prognostication of chronic respiratory diseases (CRDs) like asthma. Despite a high and growing burden of CRDs, spirometers are scarce in adult/paediatric respiratory practices in Nigeria, thus hampering objective diagnosis and management of airway diseases. Cheaper pocket *electronic/digital peak flow meters (ePFM)*, which are more accurate than the more ubiquitous mechanical peak flow meters and measure both peak expiratory flow (PEF) and forced expiratory volume in one-second (FEV₁), may serve alternative, albeit limited, roles to spirometers in low-resource settings. However, their optimal clinical utility requires validation of ePFM-derived measurements against reference standards like the Global Lung Initiative African-American equations (GLI-AA). We aim to compare the ePFM-measured FEV₁ of Nigerian children with GLI-AA.

Method. As part of a cross-sectional study of reference six-minute walk distance of healthy Nigerian school pupils aged 6-11 years in Lagos-Nigeria (2016-2017), we measured FEV₁, in standing position, with an ePFM that satisfied ATS/ERS accuracy standards (Asma-1™, Vitalograph, UK). Goodness-of-fit to GLI-AA was defined as mean (SD) predicted z-scores < 0.5 (1.0) with 5% z-scores < -1.64 [% lower-limit-of-normal (%LLN)] and 5% z-scores > 1.64 [% upper-limit-of-normal (%ULN)].

Results. A total of 766 children [mean (SD) age: 8.9 (1.6) years; 53.1% girls] achieved mean FEV₁ of 1.40 (SD = 0.34; range = 0.61-2.80) L. FEV₁ was higher in boys than girls (1.44 vs 1.36L, $p < 0.001$) and was strongly positively correlated with height ($r = 0.78$, $p < 0.001$), weight ($r = 0.69$, $p < 0.001$) and age ($r = 0.60$, $p < 0.001$). Application of the GLI-AA FEV₁ equation yielded mean predicted Z-score (SD; %LLN, %ULN) of -0.17 (1.10; 9.1%, 5.4%) and 0.03 (1.11; 7.2%, 7.5%) for girls and boys, respectively. Stepwise linear regression model yielded the equation: FEV₁ (L) = $-1.859 + 0.025_{\text{height(cm)}} + 0.076_{\text{sex (male=1, female=0)}}$; $R^2=0.623$, $SEE=0.21$.

Conclusion: The GLI-AA FEV₁ equations may serve as reference standards for ePFM-derived FEV₁ values of school-aged Nigerian children in Lagos as their FEV₁ values fitted GLI-AA equations (albeit less so amongst girls). We also propose an alternative linear reference equation for ePFM-derived FEV₁ for use in airway assessment of school-aged Nigerian children.

1F

Impact of asthma severity, asthma control on quality of life among children with bronchial asthma assessing care in a tertiary facility, Sokoto, Nigeria

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Introduction: Asthma is a chronic respiratory illness which does not only affect the breathing capacity of patients but also impacts on their health-related quality of life (HRQoL). It is considered to cause reduction in the quality of life (QoL) as its symptoms (cough, chest tightness) has led to the reduction in physical, social and psychological health domains. This study aims to assess the asthma control, asthma severity and to determine the relationship between asthma control, severity and QoL among asthmatic children.

Methods: This was a cross-sectional study conducted on 80 asthmatic children (aged 7-15 years). Diagnosis was based on Global initiative for asthma (GINA) criteria. A study proforma was used to collect biodata, socio-demographic and anthropometrics information; GINA Asthma control was used to assess asthma control, while asthma severity was assessed with both GINA and NAEPP classification. Standardized paediatric asthma QoL questionnaire (PAQL) was used to assess QoL. Lung function was measured using a portable spirometer. Data was analysed using SPSS version 22.

Results: The mean age of the subjects was 11.4 ± 2.6 years. Thirty-eight (47.5%) of the subjects had well - controlled, while 30 (37.5%) and 12 (15.0%) had partly, and poorly controlled asthma respectively. Twenty (25.0%) of the subjects had intermittent, 32 (40.0%), 20 (25.0%) and 8 (10.0%) had mild, moderate, severe persistent asthma, whereas 63 (78.8%) and 17 (21.2%) had mild, moderate asthma, none had severe asthma based on the NAEPP and GINA assessment respectively.

Twenty-eight (35%) of the subject had well - controlled asthma with good QoL while 10 (12.5%) with well - controlled asthma had poor QoL, 2 (2.5%) of the subjects with poorly controlled asthma had good QoL and 10 (12.5%) with poorly controlled asthma had poor QoL.

Thirty- nine (48.8%) of the subjects with mild asthma had good QoL, only 3 (3.8%) with severe asthma had good QoL. Thirteen (16.3%) subjects with mild asthma had poor QoL while 5 (6.3%) with severe asthma also had poor QoL.

Asthma control and severity had a strong positive correlation with QoL ($r = 0.576, P=0.007$), ($r =0.550, P= 0.004$) respectively. Well- controlled and mild asthma were associated with good QoL.

Conclusion: Achieving and maintaining well controlled asthma with no or minimal severity should be aimed at so as to reduce the impact of the disease on the child's general wellbeing, thereby improving the QoL.

Keywords: Asthma, control, severity, quality of life, children

1G

Air pollution profile of Children with asthma in Lagos, Nigeria

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Introduction: Air pollution has been associated with increased asthma symptoms, medication use and hospitalization. There is no significant study addressing personal air pollution exposures in Nigeria. The study aimed to describe the burden of personal air pollution exposure Pm2.5 in urban children with asthma.

Methods: This was a descriptive observational study of Sixty-one asthmatic school children aged between 12 and 16 years identified using the ACACIA breathing survey. A target sample of 60 was chosen based on feasibility, timescale, and resources available. Individual continuous 96-hour exposure and activity profiles were collected from the participants after Institutional Ethical approval, parental consents and individual assents. A backpack incorporating a small air pollution monitoring unit that had an inbuilt GPS data logger was carried by participants for four days (approximately 96 hours). It measured PM10, PM2.5 and NO2. A daily diary was used to monitor asthma symptoms transportation method, and other potential activities related to pollution. Tagged data were used to create summary statistics of pollutant exposure levels for each participant, averaged across their monitoring period.

Results: The Mean PM2.5 exposures were 26.2ug/m3. Only three participants had mean PM2.5 exposures below the 15ug/m3 guideline. The mean participant exposure ranges from 7.8 µg/m3 to 47.8 µg /m3. The highest mean exposures were at school (40.9 µg/m3) followed by commuting (33.3 µg/m3) while at home exposures were lowest (21.0 µg/m3). School exposures had the largest range in exposure with the lowest participant reporting mean exposure of 10.9 µg/m3 compared to the highest of 104.4 µg/m3.

Two peaks were noted in PM exposure around 8 am (commuting) and 1 pm (lunch break)

Most children commuted by motorised transport with 263 motorised trips recorded compared to 178 walking trips. Mean exposures for motorised trips to (47.6 µg/m3) and from school (31.3 µg/m3) were higher than walk trips to (36.0 µgm3) and from school (23.2 µg/m3)

Conclusion: Children were exposed to significant air pollution in school, while commuting and at home. The mean PM 2.5 is 1.5 times higher than

the current World Health Organization (WHO) 24-hour PM_{2.5} exposure health guideline of 15 µg/m³.

Keywords: Asthma, air, pollution, children

1H

Catamenial pneumothorax misdiagnosed as bronchial asthma: a case report

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Introduction: Catamenial pneumothorax is the occurrence of pneumothorax 72 hours prior to the onset of menses or after, among women of reproductive age. It is a rare condition and easy to misdiagnose. **Case Report:** We present a 33-year-old lady who was referred to our clinic with dyspnea of about 2 months. The dyspnea was of sudden onset initially on moderate exertion but later progress to dyspnea at rest. The symptoms started a day before the onset of her menses and persisted to the time of her presentation. She had previous history of dyspnea and chest discomfort mostly during perimenstrual period which started 13 years ago. These recurrent episodes of breathlessness were attributed to be as a result of bronchial asthma by medical personnel at home. She had history of recurrent periumbilical bleeding and umbilical swelling during her menstrual cycle which started 3 years ago. On examination she was in respiratory distress and not centrally cyanosed. Chest examination revealed features consistent with right sided pneumothorax. An urgent chest x-ray showed right sided pneumothorax with mediastinal shift to the left side. Endometrial biopsy revealed histological diagnosis of endometriosis. She had emergency closed tube thoracostomy drainage and subsequently had Levonorgestrel intrauterine system (LNG-IUS) inserted at discharge.

Conclusion: Catamenial pneumothorax should be suspected in any woman of child bearing age presenting with pneumothorax.

Keywords: Asthma, catamenial, pneumothorax

2A

Community-based TB interventions: the future of a free TB Nigeria: A study of Cross River State TB Program

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Introduction: Nigeria, one of the Tuberculosis hotspot countries, has developed various intervention strategies in pursuit of the dream for a TB free Nigeria. However, low case detection remains a serious challenge in most states especially when access to timely tuberculosis (TB) diagnosis and treatment is jeopardized by situation that isolate the people from health system. This study was to x-ray what future holds for a TB free Nigeria through community-based TB interventions using CRS as a reference point.

Methods: This is a retrospective study of the entire TB case finding in quarter 1 & 2 of 2022 in Cross River State. Data of TB cases diagnosed in all the interventions for the period was collected secondarily and presented in table/ bar chart. Data were categorized into two

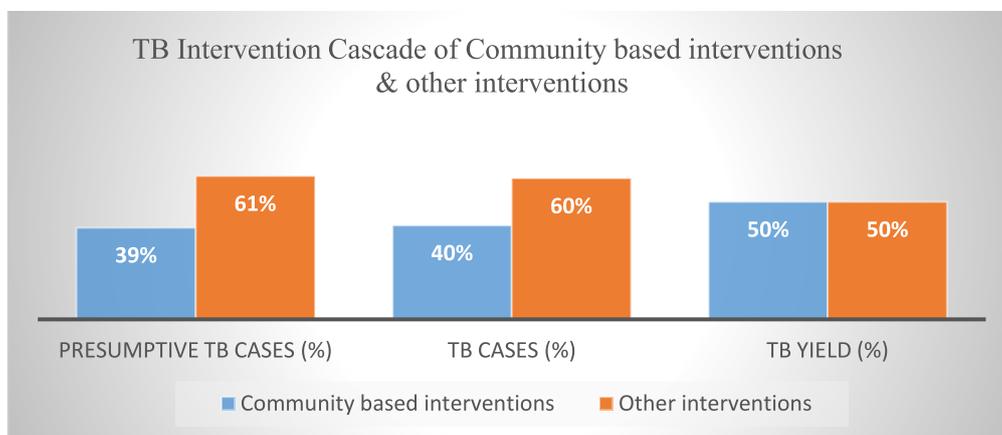
interventions: community and facility (public and private) based interventions; and analyzed manually.

Result: A total of 2280 TB cases were diagnosed from Q1 to Q2 of 2022. During the reporting period a total of 918 (40%) TB cases were diagnosed from 11038 (39%) presumptive TB cases by community-based TB interventions while a total of 1362 (60%) TB cases were diagnosed from 17028 (61%) presumptive TB cases from other interventions in the state. The TB yields were at par at 8% respectively.

Conclusion: With social and climatic disruptions that affect access to care through the isolation of the health system; Community based TB intervention has shown its resilience and the advantages it holds in such situation hence the above results. The results of the intervention provide enormous boost to the dream of having a TB free Nigeria. We, therefore recommend to the National TB program and implementing partners in the TB space to take advantage of this potent and cost effective intervention.

Keywords: Tuberculosis, community based interventions

Quarters	Community based interventions			Facility based interventions			Total
	Presumptive TB cases	TB cases	TB Yield	Presumptive TB cases	TB Cases	TB Yield	
1	4561	526	9%	5930	402	7%	928
2	6477	392	6%	11098	960	9%	1352
Total	11038 (39%)	918 (40%)	8%	17028 (61%)	1362 (60%)	8%	2280



2B

Impact of covid-19 pandemic on medical doctors at early phase of the COVID-19 pandemic

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Introduction: A case of COVID-19 disease was first reported in Nigeria in February 2019, followed with multiple subsequent waves predominated by different variants of the virus. The anti-Covid-19 vaccine

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rolls-out had been slow with low uptake rate. The total numbers of doctors lost to this pandemic is yet unknown. The first 6 months into the pandemic, some doctors lost their lives to the pandemic as reported by NCDC 2020 and NARD. The study therefore investigates the impact of the pandemic to medical practice in order to avert future recurrence.

Methods: A cross sectional survey of 229 doctors responded (6 months into the pandemic) to a semi-structured/ tested questionnaire, distributed, designed and analyzed using survey monkey. Data was cross-tabulated while charts and tables automatically designed. Infection risk exposure assessment, and impact among practicing doctors in Nigeria were assessed.

Results: Doctors from all geopolitical zone of the country participated with M:F ratio 7:3 responded.; 37% were Surgeons, 11% gynecologist, 17% were family physicians, 15% were physicians. Many doctors had some knowledge on common clinical features of COVID-19 infection but limited on rare symptoms such as skin rash, and oliguria, palliative care options. Facilities were limited in preparation for the pandemic in terms of lab units/testing centers (49.78%). Thirty-seven percent were not trained on COVID-19 pandemic protocols and safety. There was high use of common PPEs among respondent despite inconsistent availability. Limitations were noted for surface cleaning in facilities and public health measures within hospital environment was poorly practiced. These factors resulted in various impact among doctors, infection rate was 10.4%. There was reduction in contact time with patient and numbers of patients seen while sixty percent had contact with confirmed positive colleagues and patients. Four percent of respondent's immediate family member were confirmed positive.

Conclusion: The risk exposure to COVID-19 pandemics had affected the practice of the doctors due to several militating factors. This knowledge should lead to establishing early warning and preparedness to prevent recurrence of negative impact from future pandemic.

2C

Utility of urine lipoarabinomannan (lam) testing in the diagnosis of tuberculosis- UNTH Enugu experience

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Introduction: Tuberculosis (TB) is a major cause of death among HIV-positive patients. Early diagnosis and treatment of TB can reduce TB-associated morbidity, mortality and transmission. Although culture is the gold standard test for TB it is not readily available¹. GeneXpert instead is currently recommended as first line sputum investigation in suspected pulmonary TB due to its wide availability, higher sensitivity than Ziehl Neelson stain,^{2,3} and short turnaround time. However poor sputum production in HIV positive patients with suspected PTB limits its use and urine LAM (Lipoarabinomannan) has therefore become a somewhat better alternative in diagnosing TB in patients with advanced HIV infection and disseminated TB. This study was done to evaluate the utility

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of urine LAM testing in the diagnosis of tuberculosis among HIV positive patients and to determine its relationship with CD4 count, genexpert, WHO staging, patients' symptoms and demographics.⁴

Method: This is a descriptive cross-sectional retrospective study done at the HIV clinic of UNTH. Data were collected from the records of newly diagnosed HIV patients with CD4 count of less than 200, who carried out urine LAM. Data, including CD4 count, urine LAM result, GeneXpert result, symptoms, WHO staging, and demographics were collected and analysed using SPSS version-26. Descriptive and inferential statistics were conducted as appropriate. P value of 0.05 was taken as level of significance.

Result: Seventy-one HIV positive patients (48.3% males; Median age 31.0 with IQR of 28-41) carried out urine LAM test, out of whom 36 (50.7%) had a positive result. Patient's age, sex and BMI had no statistically significant relationship with urine LAM result (P-value 0.424, 0.791 and 0.191 respectively). Urine LAM was positive in 2 patients with positive genexpert and 5 patients with negative genexpert. There was no statistically significant relationship between urine LAM and genexpert findings. (P = 1.000) The median CD4 count was lower in patients with positive urine LAM result (125) compared to those with negative result (139). However, this difference was not statistically significant. (P = 0.407) Symptomatic patients in contrast to asymptomatic ones had greater number of positive urine LAM result (66.7% vs 40%) but patient symptoms and WHO staging showed no statistically significant relationship with urine LAM (P = 0.391 and 0.298).

Conclusion: Urine LAM detected tuberculosis in more HIV positive patients than GeneXpert, resulting in treatment of more patients based on positive result. Utilizing urine LAM in the diagnosis of TB in HIV positive patients increases positive yield and should be encouraged.

Keywords: Urine LAM (Lipoarabinomannan), GeneXpert, tuberculosis (TB), HIV, CD4 Count

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2D

A two-way disaggregation of diagnosed TB cases in Cross River State and its implications for improved childhood TB cases

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Introduction: As countries intensify efforts to improve TB diagnosis and treatment, the proportion of bacteriologically notified cases needs to be monitored to ensure correct diagnosis and timely treatment. The number of TB cases in children is an important indicator of recent transmission but childhood TB diagnosis in developing countries has remained a daunting challenge because of the paucibacillary nature of TB in children, the difficulty in collecting their sputum, the invasiveness and sophistication of collecting alternative specimens but stool, creating a lacunae via clinical diagnosis. This study shed light on the proportion of bacteriologically and clinically confirmed pulmonary TB cases and the implication for improved childhood TB cases.

Methods: This was a retrospective study that reviewed and analyzed all the pulmonary diagnosed TB cases in Cross River State from January-June 2022 according to age and mode of diagnosis. Data was summarized and displayed in a two-way table.

Result: A total of 3309 pulmonary TB cases were reviewed, 80.5% (2663) and 19.5% (646) were bacteriologically and clinically diagnosed respectively. Further disaggregation showed that only 1(2%) under 5 TB case was diagnosed bacteriologically while 49 (98%) were diagnosed clinically. A total of 53 (33%) childhood TB cases were diagnosed bacteriologically while 67% (110) were clinically diagnosed. 83% (2610) of the adult pulmonary TB cases were diagnosed bacteriologically while 17% (536) were diagnosed clinically. 95.2% (23,858) of the total bacteriological samples were sputum while 1208 (4.8%) were stool.

Conclusion: This study demonstrated clearly that childhood bacteriological TB diagnosis in Cross River State needed to be optimized using a more convenient alternative specimen for bacteriological diagnosis of childhood TB when sputum is impossible (stool comfortably provides that alternative). Concerted efforts are needed to popularize the use of other alternative specimens especially stool to improve childhood TB diagnosis using the most sensitive diagnostic tests (bacteriological) for TB to ensure that international standards for TB care are met thereby avoiding under diagnosis of children with TB, overtreatment of children without TB, and efficient use of TB resources.

Keywords: childhood, pulmonary, tuberculosis, diagnosis

2E

The COVID-19 and lung health challenges: the role of physiotherapy

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Introduction: Physiotherapy interventions, especially chest physiotherapy have proven to be effective for improving lung health and promoting long-term respiratory physical function among patients with lung disorders, and apparently healthy individuals. The role of physiotherapy in maintain and enhancing pulmonary health among ICU survivors has also been long established.

In view of the relatively new challenges posed by the still evolving COVID-19, have pointed out some limitations of some of the techniques and procedures used in physiotherapy. And also owing to the limited

experience by healthcare professionals working with the disease, the evidence of the efficacy of physiotherapy in COVID-19 is still sketchy. This review examines the current evidence regarding the role physiotherapists play in promoting lung health in apparently healthy subjects and/or patients with various lung disorders. It also offers appraisal of some of the strength and weakness of some of the existing physiotherapy techniques, identifies areas in need of future research and details some of the issues facing physiotherapists responsible for the clinical management and rehabilitation of patients with lung diseases.

Methods: A review of physiotherapy interventions tailored towards improvement of lung health in different conditions that may affect lung function. The online databases (Medline, Google Scholar, Cochrane and PEDro) were searched for evidences from meta-analyses and systematic reviews, only roles with strong evidence that were included.

Conclusion: Physiotherapy has important role to play in maintaining and improving lung health. There are strong evidences that physiotherapists have a vital role in promoting pulmonary function in the ICU and in the area of COVID-19 lung disorders

2F

Pattern and outcome of chest trauma and lung health post COVID in Federal Medical Center, Ebute Metta, Lagos, Nigeria

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Introduction: Chest trauma is a common event. In our environment, it occurs following road traffic accidents. It is a pathology that has witnessed increasing incidence due to increasing armed conflicts and the proliferation of small fire arms and light weapons. There has also been an increased migration of Specialized Nurses and other Specialists to other climes.

Methods: The cases were retrieved from the Electronic medical records of the hospital. They include patients managed for trauma between July 2021 and June 2022.

Result: During the period of review a total of 894 patients who had one form of traumatic injury or the other were attended to; of these Adults were 729(81.4%), Paediatrics were 165(18.6%). Road traffic accident (RTA) was the aetiology in 272(37.3%) adult patients, assault 105(14.4%), burns 19((2.6%), fall 53(7.3%) other forms of injury accounted for 280((38.4%) cases. Among the paediatric population, 37(22.4%) were due to RTA, 1(0.6%) case from assault, 15 (9.1%) cases of burns, fall 31(18.8%) and others 81(4.1%).

Discussion: Acute trauma fulfils the criteria to classify the disease for a global pandemic, being a frequent source and substantial contribution to morbidity and mortality in the last decades all over the world¹. The type of traumatic chest injuries varies widely and essentially depends on the violent environment or the kinematics and severity of the accidents in the diverse geographical regions around the world. The injuries are divided into four groups: Thoracic wall, Lung, Mediastinum, and Diaphragmatic wounds. The advent of COVID resulted in substantive investment in

health especially ventilators resulting in an improved support for victims of chest trauma in our facility.

Conclusion: The care for victims of chest trauma has seen significant improvement following World War 2. Care in Africa have been challenging due to our socio-economic status. However following the world wide COVID pandemic and the increased investment in health, outcomes are becoming better.

Keywords: COVID, chest trauma, pattern, outcome

2G

Uniportal VATS Bullectomy – a first experience case report

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Introduction: Spontaneous pneumothorax is caused by a variety of pathologies. A very common pathology is lung bullae, which gradually increase in size over many years. The bullae can be unilateral or bilateral. We report our first experience with uniportal VATS bullectomy in a young man who presented with clinical features of recurrent left sided pneumothorax who eventually went on to have uniportal vats bullectomy following two previous tube thoracostomies in a centre where uniportal surgery was not a routine process

Case Report: A 25-year-old man with one day history of recurrent sudden left chest pain and progressively worsening difficulty in breathing, no fever, weight loss, preceding history of trauma, drenching night sweats or having chronic cough. Nil history of smoking cigarettes. Physical examination revealed a young man of average height, not pale, afebrile, acyanosed, saturating 95% in room air. Respiratory rate was 30cpm, right tracheal deviation, reduced left chest expansion, hyperresonant percussion note and reduced air entry on the left side. Chest X-ray showed features in keeping with a left pneumothorax with chest tube in-situ, chest CT scan revealed bilateral apical bullae. He was worked up and had a left uniportal VATS bullectomy. Intraoperative findings were flimsy pleural adhesions and left upper lobe apical bullae, normal mediastinal and diaphragmatic pleura. Chest tube was removed on 3rd post op day and he was discharged home on 4th post op day

Conclusion: Spontaneous pneumothorax from lung bullae can be safely resected surgically by the Uniportal VATS approach in our environment.

Keyword: VATS, uniportal, bullectomy

2H

Tracheal Injury: a case report

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Introduction: Tracheal injury is an uncommon event. Tracheal laceration, a form of tracheal injury is a rare but potentially catastrophic event. Airway trauma may be life-threatening, immediately or within several hours after acute injury.

Methods: The case of the index patient was retrieved from the Electronic medical records of the hospital; reviewed here, with particular emphasis on presentation, investigations, management and short-term outcome.

Case Report: A 23 year old man referred to our Emergency Department with a history of assault wherein his assailants slit his throat in an attempt to steal the commercial truck he was driving. He had initial care and was referred due to persistent haemoptysis. He had an x-ray of the soft tissue of the neck and eventually had a CT scan of the neck and thoracic inlet. Patient had a flexible bronchoscopy done and the site of tracheal injury was identified; and had repair by excising the fistulous tract which created a defect on the anterior wall of the trachea and subsequent repair using interrupted non-absorbable prolene 2/0 sutures. Wound was closed in layers. Immediate post op, haemoptysis stopped. Patient had superficial surgical site infection but wound healed following wound dressing.

Discussion: Tracheal laceration injuries may result from accident, homicide, or suicide². The diagnostic signs of laryngotracheal injury include bilateral vocal cord damage and its sequelae including hoarseness and mild to moderate airway distress, external marks of trauma on the anterior aspect of neck, loss of palpable landmarks and extravasation of air into the subcutaneous tissues of the neck³. It is important to note that respiratory distress may be absent. This occurs when the separate ends of trachea is not large, allowing adjacent soft tissue around the trachea to form a pseudo-airway and make ventilation possible⁴⁻⁶. Our patient had no respiratory distress likely due to this mechanism.

Conclusion: Prompt repair of tracheal laceration in this patient prevented airway soilage due to persistent haemoptysis and closure of the tracheocutaneous fistula, which is a rare sequelae of trachea laceration.

Keywords: Trachea, injury

3A

Burkitt's Lymphoma of the Breast in an HIV-positive patient: a rare presentation

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Introduction: Breast cancer is the commonest female cancer worldwide, affecting 13.5–30 per 100,000 women in sub-Saharan Africa. The commonest histological variants of breast cancer are those that originate from the glandular epithelium of the breast. Primary Breast lymphomas (PBLs) are uncommon, they represent only 0.04–0.5% of all breast cancers. Burkitt lymphoma is the least of this rare group. The report intends to present Burkitt's lymphoma, a rare histological diagnosis of Primary breast tumour in an HIV+ patient.

Methods: Description of a case of bilateral breast disease and the histological diagnosis.

Case Report: Our case was a 28-year-old HIV+ woman who presented with multiple bilateral breast lumps of two months duration, associated with bilateral axillary lumps, weight loss, night sweat, and malaise. Lumps range from 2–8cm in size with multiple axillary lymph nodes. Core tissue biopsy showed a monotonous population of intermediate-sized lymphoid cells with round nuclei, clumped chromatin, and several nucleoli interspersed by numerous tangible body macrophages,

presenting a starry sky appearance. Diagnosis of Bilateral Primary Breast Burkitt's Lymphoma (PBBL) was made, and the patient was referred to Oncology. She was placed on ART and Chemotherapy (CHOP: cyclophosphamide, hydroxydaunorubicin, vincristine sulfate, and prednisone) and clinically responded to therapy.

Conclusion: Breast lumpiness in immunocompromised patients calls for suspicion of lymphoma in the immunocompromised patients.

Keyword: Burkitt's lymphoma, Breast lumps.

3B

Non-Hodgkin's Lymphoma presenting as Deep Vein Thrombosis and intra-cardiac thrombus: a case report

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Introduction: Malignancies are a risk factor for deep venous thrombosis (DVT) from vascular compression, hypercoagulability and stasis. Venous thromboembolism is an under-reported, preventable cause of morbidity and mortality in childhood lymphomas. This case report aims to increase awareness of DVT in lymphomas and encourage routine assessment and prophylaxis for these children.

Case Report: The case is a 16 year old boy with a 7-year history of swellings in the neck and axilla, 5-year history of swollen right upper limb, cough and difficulty in breathing 2 days prior to presentation. Examination revealed tachypnea, tachycardia, hypoxia, hypotension, stony dull percussion and reduced air entry on the right hemithorax, absent radial pulses, cold extremities, distant heart sounds, generalized lymphadenopathy, with a swollen, warm and tender right upper limb. Admitting diagnosis was obstructive shock secondary to pericardial effusion in a child with lymphoma. Investigations showed leukocytosis, deranged clotting profile, pleural and pericardial effusions on chest x-ray, and thrombosis in the right axillary and subclavian veins on doppler ultrasound, while cardiac ultrasound revealed a blood clot in the right atrium. A chest tube and pericardial drain were inserted and he received enoxaparin. Lymph node biopsy was suggestive of Non-Hodgkin's lymphoma. He remained hypoxic and in shock, a thrombectomy was planned but he was hemodynamically unstable. He stopped breathing on the 8th day of admission, shortly after turning from prone to supine position.

Conclusion: The risk of mortality with deep vein thrombosis and pulmonary thromboembolism, calls for a high index of suspicion and need for prophylaxis in children with malignancies.

Keywords: Thromboembolism, lymphoma, shock

3C

Radiation safety in public health: assessing dose levels among health workers using portable digital x-ray for routine community active case finding of tuberculosis in Nigeria

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Background: Specialists worry about radiation dose exposure risk effects to health workers using X-ray machines outside the confines of lead-lined rooms. Stochastic effects of radiation exposure in health workers occur after many years while non-stochastic effects are seen in the short-term. Adequate training in radiation protection can minimize user exposure risk, but to what degree? USAID supported KNCV Nigeria with seven portable digital x-ray (PDX) equipment distributed across six States to improve TB case-finding. Protective gear and dosimeters were also provided to the health workers. The study presents preliminary radiation dose findings from those seven health workers.

Method: Seven radiographers working daily with PDX for a 3-month period were assessed. Each underwent safety training on use of protective gear such as lead jacket and eye goggles during screening. Issued dosimeters were authorized by the Nigeria Nuclear Regulatory Authority to be worn on the chest and recalled every quarter for reading. Whole body and skin region readings were collected and analyzed.

Result: All seven were male. Whole body region (w) readings in millisieverts (mSv) after 3 months was = 0.10, 0.00, 0.00, 0.00, 0.17, 0.00, 0.00. Skin region (s) readings in millisieverts (mSv) after 3 months was = 0.11, 0.00, 0.00, 0.00, 0.14, 0.00, 0.00. The mean and median distribution for 'w' = 0.03 and 0.00. The mean and median distribution for 's' = 0.04 and 0.00.

Conclusion: Dose limits for whole body and skin regions of all seven health workers using PDX was found to be within the International Commission on Radiological Protection limit for 'w' and 's' being 5.01mSv and 125.01mSv respectively. This demonstrates that PDX use with requisite training and correct protective gear application effectively mitigates exposure risk. For an equipment in such frequent use by same users we recommend further studies be done over a longer time span.

Keywords: Tuberculosis, digital x-ray, radiation safety

3D

Assessment of knowledge, practice and barriers of oxygen therapy use in adult patients among doctors and nurses at UNTH, Enugu: A survey from Enugu state, South East Nigeria

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Introduction: Oxygen is one of the essential drugs listed by the World Health Organization (WHO).¹ Prescription and administration of oxygen in emergencies by healthcare providers has been reported to be inappropriate in most settings, with a huge gap in the knowledge of various aspects of oxygen therapy. World Health Organization (WHO) report every year at least 1.4 million deaths occur due to the lack of and inappropriate administration of supplemental oxygen therapy.^{1,2} This study aims to assess the knowledge, practice and barriers to use of oxygen therapy among nurses and doctors.³

Methods: A descriptive hospital-based cross-sectional study. The data were collected electronically via Google forms using a self-administered validated and structured questionnaire which included professional characteristics, educational background, awareness and use of oxygen

therapy guidelines, oxygen delivery practices and barriers. Data were analyzed using descriptive statistics and association between variables explored with Chi-square test at $P < 0.05$.

Results: Two hundred health care professionals participated in this study, which comprised of 159 (79.5%) doctors and 41 (20.5%) nurses with a mean age of 36 years \pm 8.2.

One hundred and seventy-one (85.5%) had no special training on oxygen therapy. One hundred and thirty-seven participants were aware of oxygen therapy guidelines, however only ten (15.9%) had applied the guidelines in practice. One hundred (50%) and 190 (95%) felt erratic electricity and malfunctioning oxygen cylinders and concentrators were barriers to adequate use of oxygen therapy. One hundred and thirty-one (82.4%) doctors and thirty-six (87.8%) nurses had good knowledge of oxygen therapy. The higher knowledge for nurses was probably because a significantly greater proportion of nurses prescribed oxygen for a patient more recently compared to doctors, $p = 0.002$.

The profession, years of practice, previous trainings on oxygen therapy and frequency of oxygen use, showed no significant relationship with the knowledge of oxygen therapy, (p -value 0.405, 0.768, 0.132, 0.463).

Conclusion: The level of knowledge was high in both doctors and nurses. However, there is an important gap in lack of training on use of oxygen therapy. Hence, it is necessary to organize regular training programs on oxygen therapy using the latest guidelines, to ensure improved practice.

Keywords: Oxygen, doctors, nurses, knowledge, practice

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3E

Impact of air pollution on lung function in three North-Western states of Nigeria

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Introduction: Information on impact of air pollution on lung function is scarce in Nigeria especially in Northern part of the country. We aimed to investigate the association of long-term exposure to air pollution on lung function in three North-Western States of Nigeria: Sokoto, Kebbi and Zamfara.

Methods: We recruited 1053 participants, 18 years and above residing in close proximity to sources of air pollution which included industrial areas and high traffic road intersections in four males and 149 females were recruited with a mean age of 37.5 \pm 14.0. About half of the respondents (50.1%) had abnormal lung function of which 35.9% had restrictive

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abnormality while 14.2% had obstructive. Participants living < 20metres from source of air pollution had highest presentation with abnormal lung function [71.39% of those with obstructive and 73.5% of those with restrictive lung disease the three states. Clinical data was collected using structured questionnaire and spirometry was performed for each participant. Data on air pollutants was collected using hand-held air quality monitoring devices in real time.

Results: Nine hundred and ($\chi^2 = 15.219, p = 0.004$). Similarly, respondents that lived close to industrial areas were more likely to have both obstructive (22.2%) and restrictive (41.7%) lung diseases ($\chi^2 = 9.849, p = 0.043$). The monitoring values of PM_{2.5} had a negatively moderate correlation with the lung function of respondents ($r_{pb} = -0.496, p = 0.002$).

Conclusion: Long term exposure to air pollution has negative impact on lung function. This study reinforces the urgency for authorities to come up with strategies to mitigate air and pollution to improve lung health.

3F

Pulmonary Embolism presenting as Delirium, an acute confusional State in an elderly patient: a Case Report

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Introduction: Large numbers of elderly patients are admitted into hospitals in acute confusional states. In many, the underlying causes are easily found, in some, correct diagnosis is difficult. Pulmonary embolism (PE), the most serious clinical presentation of venous thromboembolism, is often misdiagnosed because of its non-specific features including delirium.

Case Report: A 73-year-old woman was admitted into our hospital in a confused state with no obvious risk factors of PE. D-Dimer levels were elevated and contrast enhanced High Resolution Computed Tomography (HRCT) of the chest confirmed the diagnosis of PE. She was treated with Enoxaparin and discharged on Dabigatran. Her symptoms had resolved at the time of discharge and she has been stable for over three month's follow-up visit

Conclusion: PE should be regarded as a differential in elderly patients with acute confusional state despite the absence of obvious risk factors. Investigating for and treating when confirmed may save a life.

Keywords: Acute Confusional state, delirium, d-dimer, pulmonary Embolism, high resolution Computed tomography

3G

Thyroid abscess presenting as goiter: a rare case report

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Introduction: The thyroid gland is an endocrine gland in the neck with good vascular and lymphatic drainage and thus, relatively resistant to infections¹. This resistance is further reinforced by a well-developed fibrous capsule and high iodine content. Acute suppurative thyroiditis is an overtly rare case and constitutes 0.7–1% of all thyroid gland disorders.

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The presence of thyroid gland disease, congenital malformations and remnants, trauma from ingested migrating foreign bodies, immunodeficiency, Post-Vaccination ASIA Syndrome, and ageing have been reported as among predisposing factors while *Staphylococcus aureus* and *Streptococci pneumonia* and rarely *Salmonella typhimurium* have been isolated and could determine type of antibiotic cover. Diagnosis of this rare case, was a deviate from norms, so therefore could be tricky when patients are from environments with limited health resources. We aim to present acute thyroid gland swelling with fever, a rare event in a country with several endemic goitre belts.

Methods: It is a case description of acute thyroid abscess a rare presentation with treatment outcome.

Case Report: We present a 38-year-old woman who presented with six days history of progressive anterior neck swelling, initially only left-sided but subsequently bilateral, associated with fever and dysphagia. There was no prior history of thyroid disease, obvious neck swelling, neck trauma, upper respiratory tract infection, constitutional symptom of chronic thyroid diseases nor medical comorbidity.

On examination, a shiny, warm, tender, fluctuant and tense gland which moves with swallowing was noted. The patient's body temperature was 38°C. An ultrasound-guided aspiration showed bilateral lobe of the thyroid with abscess. Blood work-up showed a leukocytosis and normal random blood sugar. Surgical double-site drainage of 600ml of abscess with antibiotic therapy was effected. The culture of aspirate was positive for *staphylococcus aureus*, and the histology of the biopsy tissue revealed abscess cavity lined by granulation tissue only. The postoperative period was uneventful.

Conclusion: The usual causes of goitre in this country are multi-nodular goitre and Grave's disease in adults with or without constitutional symptoms, however acute events similar to the reported case should raise the suspicion of acute suppurative thyroiditis with abscess. Surgical drainage and directed antibiotic therapy remains the mainstay of treatment and prognosis is better if patients present early.

Keywords: goiter, anterior neck swelling, thyroid gland abscess, fever

3H

Metastatic Mediastinal Embryonal Rhabdomyosarcoma mimicking Disseminated Tuberculosis in a young Nigerian Man: a Case Report

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Introduction: Mediastinal embryonal rhabdomyosarcoma is a rare sarcoma with poor prognosis in adults and a 5-year survival rate of approximately 27%.¹ Treatment is typically with a combination of chemotherapy/radiotherapy and surgery but the clinical presentation of malignancy and tuberculosis may be mistaken for one other.²

Methods: The case notes of the patient were retrieved from the medical records of Ahmadu Bello University Teaching Hospital, Zaria where the patient was managed.

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Case Report: We report a case of a 25-year-old Nigerian man who presented to the hospital with a 3-month history of cough, low-grade fever, weight loss and a 3-week history of worsening breathlessness. He had also developed low back pain with weak legs and inability to walk. Examination findings revealed cachexia, pallor, grade III digital clubbing, cervical lymphadenopathy, stony dull percussion notes worse in the left lower lung zone with absent breath sounds and flaccid paraplegia with sensory level at T6 thoracic vertebrae. Functional performance score was ECOG 4.

Patient was non-reactive for HIV and no mycobacteria was detected on sputum and pleural aspirate GeneXpert®. However, the chest X-ray showed homogenous opacities in the left middle and lower lung zones with patchy opacities on the right lung zones. Patient's clinical condition continued to worsen 4 weeks into a course of anti-tuberculosis medications for disseminated tuberculosis and re-evaluation with CT scan showed hilar and mediastinal masses with extensive left lung consolidation and pleural effusion and thoracic spine involvement. Transthoracic trucut biopsy of the mediastinal mass revealed a histological diagnosis of embryonal rhabdomyosarcoma. Cardiothoracic surgery and radio-oncological review was initiated for multi-disciplinary team (MDT) management of the patient.^{3,4}

Conclusion: A high index of suspicion for alternative diagnoses cannot be overemphasized in the management presumed disseminated tuberculosis. This is key to early and accurate diagnosis of such mediastinal malignancies in a resource-limited setting to improve clinical outcomes.

Keywords: Embryonal rhabdomyosarcoma, mediastinal tumour, disseminated tuberculosis, tuberculosis, mimics

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31

Knowledge, Attitude and Practice of Viral Hepatitis among people co-infected with HIV in a tertiary Hospital Kaduna, Northwest Nigeria

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Introduction: World Health Organization (WHO) asserted that two major communicable infectious diseases that stand out and threaten public health globally are human immunodeficiency virus (HIV) and hepatitis. Approximately ten percent people living with HIV infection are infected with viral hepatitis. This study set out assess the knowledge, attitude and practice of clients coinfecting with HIV and viral hepatitis in other to enlighten and thereby reduce the transmission of hepatitis.

Methods: A cross-sectional study involving clients over 18years accessing care in a tertiary hospital, Northwest Nigeria. Clients already of care for HIV were screened for hepatitis B and C and all coinfecting clients willing to participate were included. Data was collected using questionnaires and analyzed using IBM SPSS statistics 25.

Result: A total of 384 clients participated, 272 (70.8%) were females. Their mean age was 39.31 ± 9.58 years, while 175 (45.6) were married. Most of the clients correctly identified routes of transmission including sexual (269;70.1%), mother to child (231;60%) and risk of acquiring the infection as use of intravenous drugs (261;68%) though a few thought it could be transmitted faeco-orally (142;37%). The age groups (<40 years and ≥40years) were significantly associated with gender, marital status, educational status and occupation of the participants (p< 0.05).

Age group and gender did not have significant association with the knowledge of transmission including through blood, sexual and mother to child but educational level was significantly associated with the knowledge of sexual transmission. Only 39(10.2%) were aware of their partners status and knowledge of partner's status was not significantly associated with age group, educational level and gender.

Conclusion: Despite the apparent good knowledge of the clients on some modes of transmission and practices of viral hepatitis, significant number of them did not know their partners' status which could enhance transmission. Therefore, further enlightenment needs to be given to them and the general populace to abate the transmission of this disease.

Keywords: Viral hepatitis, human immunodeficiency virus, KAP

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