NIGERIAN INSTITUTE OF MEDICAL RESEARCH

3rd

ANNUAL SCIENTIFIC CONFERENCE

14 -18th November 2011.

NIMR Main Auditorium, Lagos, Nigeria.

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BOOK OF ABSTRACT

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Track 5: Molecular Biology and Biotechnology
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Dr. Sam T Awolola

ABSTRACT SCHEDULE

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- Special Track 1

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Session Coding
- Example: WE1OP01 (We: Wednesday, 1: track number , OP: Oral Presentation, 01: Speaker order)

Tuesday 15th November 2011

Director General's Young Researcher Award

TU2OP01

Preliminary report on Hepatitis C virus genotypes present in Nigeria

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Background: Hepatitis C virus (HCV) infects liver cells, causes severe inflammation with complications. It is estimated that 3% of world population have HCV, and in Nigeria, prevalence rates between 5.8-12.3% have been reported. HCV is classified into 6 genotypes, and it determines the duration of treatment (24 or 48 weeks). The genotypes in Nigeria are unknown.

Objective: This study aims to provide preliminary information on prevalent HCV genotypes in Nigeria.

Methods: This is a cross-sectional study using plasma from 39 serologically confirmed HCV positive patients from across Nigeria who assessed the Human Virology Laboratory for genotyping. Plasma ($200\mu L$) collected from each individual was used to obtain HCV RNA viral load (HCVL) using the *COBAS-Amplicor* hepatitis C monitor kit and instrument (Roche). The amplicons generated were employed for genotyping assay using *Linear-array* HCV Genotyping-Detection kits, following manufacturer's instructions.

Results: There were 30 males and 9 females, with a mean age of 36 years. Median HCVL was 371,000 IU/mL. Genotypes found were 1, 2, 3, 4 and 6 with the following prevalence 46.2%, 7.7%, 5.1%, 2.6%, and 5.1% respectively. Mixed genotypes represented 18% while 15% were undetermined due to low viral titer.

Conclusion: Genotype 1 was most prevalent and is one of the most difficult to treat requiring 48 weeks of therapy. Since several other genotypes were observed, it is important that genotype is determined before commencing treatment.

TU4OP02

Pattern of antiretroviral drug toxicities and associated factors among Nigerians living with HIV Infection.

Gbajabimila TA, Okwuonu UD, Ezechi OC, Musa ZA, Herbertson EC, Ezeobi PM, Ekama SO, Ohwodo H, Amusan-Ikpa S, Owa Felicia F, David AN, Gab-Okafor CV, Oladele DA, Kalejaiye OO, Adu RA, Oke BA, Odubela O, Somefun EO, Onwujekwe DI, Odunukwe NN.

Clinical Sciences Division. Nigerian Institute of Medical Research, No 6 Edmond Crescent Yaba Lagos. Nigeria

Background: Antiretroviral therapy has been shown to increase survival rates and reduction in AIDS-defining; however it may also be associated with significant toxicity which impacts on adherent cue.

Objective: To determine the antiretroviral drug toxicities and associated factors among Nigerians living with HIV/AIDS.

Method: A Cohort review of all adults patients who presented with antiretroviral drug related toxicities over a 5 year period (August 2006 to July 2011). Relevant information was collected prospectively using drug toxicities case record forms. Data was analysed using SPSS version 17.0.

Results: A total 483(5.1%) out of 9455 adult patients presented with antiretroviral drug related toxicities. The most common toxicities were Lipodystrophy (19.7%), Neuropathy (19.0%), CNS Manifestation (9.1%), skin rashes (8.9%) and anaemia (7.3%). Stavudine (38.2%), Efavirenz (15.1%) and Zidovudine (15.1%) were the drugs mostly associated with toxicities. females 63.9% patients within the age group 40-49(40.6%) were the most affected. Majority of the toxicities (65%) occurred in patients who had been on drugs between 1-3 years.

Conclusion: Antiretroviral drug toxicities are common among our patients and may impact on their adherence to drugs. Close monitoring of patients adherence counselling based on toxicity profile, rationale choice of drug and toxicity guided drug procurement policies are essential for patient wellbeing and sustainability of antiretroviral programme.

TU1OP03

Exposure to Zidovudine or Nevirapine alters mitotic phase distributions and induced stickiness in anaphase and telophase in the *Allium cepa* 48hrs chromosomal aberration assay.

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Background: Exposure to NRTIs/NNRTIs damages the telomere and incorporates into nuclear and mitochondrial DNA. Collective data suggest that all NRTIs may cause DNA damage, impose a cancer risk and effects may not all resolve when the drugs are withdrawn. We demonstrated the genotoxicity of Zidovudine (ZDV) and Nevirapine (NVP) using the *Allium* root tip assay.

Methods: A 96hrs root growth inhibition was performed to determine the EC_{50}. *Allium* bulbs were grown in 6 concentrations of ZDV or NVP (10-1200μM). A 48hrs recovery study followed to check if the changes were reversible. Thereafter, the EC_{50} and 3 dilutions (50%, 25% and 10% EC_{50}) were used to grow the bulbs. After 48hrs, the root tips were evaluated for chromosomal aberrations. Two hundred and four *Allium* bulbs were used.

Results: There was additional root growth during the recovery phase, but the total growth of most groups was equivalent to half of the negative control. The EC_{50} for ZDV and NVP were 65μm and 92.5μm respectively. The mitotic index (MI) was 4.1% for the NC. Most treatment groups had MIs higher than the NC but only that of 32.5μm ZDV was significantly higher. Mitotic phase distribution among the ZDV groups varied with concentration. Amongst the NVP groups, telophase had the highest frequency followed by prophase, with few cells in metaphase and anaphase. Many cells were arrested in interphase. Stickiness was the most frequent aberrations seen (23-62%).

Conclusion: The effect of the ARVs did not reverse upon drug withdrawal. The stickiness could cause the daughter cells to have abnormal chromosome numbers.

Special Track 1

TUSOP01

Social, Economic and Environmental risk factors for epidemic of diseases: The case of cholera in Nigeria

Ujah IAO, Smith SI, Oyedeji KS, Niemogha MT, Brai BIC, Nwaokorie FO, Bamidele TJ, Oladele DA, Musa AZ, Adeneye AK, Omonigbehin EA, Akinsinde KA, Bamidele M, Fesobi TW.

Nigerian Institute of Medical Research, Yaba-Lagos

Background: Cholera is a devastating diarrheal disease caused by *Vibrio cholerae* and responsible for several global epidemics and pandemics resulting in suffering and deaths. The organism is found in surface water worldwide, whose persistence in the environment is aided by its protective biofilms. While Ingestion of water contaminated by human faeces is the most common means of acquisition of the disease, consumption of contaminated food can contribute to its spread.

Objectives: To further bring to the fore the factors that engender the epidemic of cholera resulting in needless deaths and ill-health among low-resource countries of the world so as to renew public discourse that will assist in informing policy for appropriate response.

Methods: Reviews of available literature on the factors that are responsible for the epidemic of cholera were undertaken. Additionally, a rapid online study on the availability and safety of pipe borne water across the cities in Nigeria was conducted among medical practitioners in Nigeria, through a simple designed questionnaire using the doctors' group e-mail address. Also included, were ways of containing the epidemic of cholera in Nigeria.

Results: A total of 40 responses were received from 24 states and FCT (65%) across the six geo-political zones of Nigeria. Of these, only 42.5% said pipe borne water was available in their community, while 57.5% said they had no pipe borne water. 5.1% said that they 24 hours of water supply, while with the average duration of water supply was 3.3 ± 6.1 hours/24hours in the studied areas. 41.2% of respondents felt that the pipe borne water was safe for drinking because it was colourless and 53% felt the water was unsafe because there were contaminants such as visible particles, and greenish algae. Possible ways of preventing water borne diseases, including cholera that were suggested included health education, provision of potable, safe drinking water, personal hygiene and environmental sanitation.

Conclusion: Cholera is a disease of poverty. Prevention of its epidemic must be strengthened through Health Education, safe water supply, effective environmental sanitation through the collaborative efforts of the ministries of Health, Water Resources and Environment. Improvement in the economic circumstances of poor Nigerians, through the poverty alleviation programme using the MDGs to drive the process is also suggested.

TUS1OP01

Building a Research Culture as a tool for Malaria control: Integrated Vector Management in Lagos State

Idris J[1], Olugbile O[1], Taiwo O[1], **Bakare O[1]**, Jolaoso A[1], Omoera V[1] ,Aman . O[1], Adeoye O[1,] Arowolo T[2], Awolola S[3]

1. Lagos State Ministry of Health 2. World Health Organization, 3. Nigerian Institute of Medical Research

Background: Malaria remains a serious public health challenge in Lagos State with a serious socio-economic impact on families. It is now evident that multiple complementary vector control interventions are needed to reduce the burden of the disease. Integrated Vector Management (IVM) is an evidence-based decision making for vector control and recommended for malaria with the aim of impacting on other mosquito borne diseases. Here, we use malaria research findings for evidence based decision making for an IVM programme in Lagos State.

Objectives: To use malaria research findings as evidence for programming and designing   an integrated vector control intervention in Lagos State

Methodology: Desk review of previous control interventions was conducted. A state Malaria TWG (Malaria Control Research, Technical and Advisory Committee) was inaugurated to prioritize malaria related researches and present its findings for evidence-based policy and programming. A comprehensive IVM programme (massive LLIN distribution, IRS and larval source management) was then designed, implemented, monitored and evaluated by Research Scientists in the academia and Research institutions.

Results: Over 4.2 million nets were distributed during the mass LLIN campaign with a coverage of 99.4% of targeted people, The end process monitoring showed 41% hanging rate. Over 35,477 (63.3%) of the 54,308 household targeted for IRS were covered with significant reduction in reported malaria cases six months following IRS spraying. Results of larval source management activities suggested significant reduction in adult malaria mosquito and nuisance mosquito population in all areas where larval control was implemented.

Conclusion: Operational research in Malaria has hitherto been a neglected area in the State. The Lagos State IVM experience showed that significant reduction in malaria cases could be achieved through investment in malaria control researches to provide evidence for programming and evaluation of malaria control programme.

Wednesday 16th November 2011
Track 1

WE1OP01

Effectiveness of mechanical screening and transfluthrin – impregnated paper (Rambo) against malaria vectors in Kumbotso LGA, Kano Nigeria.

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Background: The level of personal protection acquired from the use of mechanical screening of windows and doors alone or the screening in compliment with burning of transfluthrin impregnated paper was assessed.

Objective: The specific objectives were to compare indoor residual densities, man biting and sporozoite rates the vectors with and without interventions.

Methods: Pyrethrum spray collection (PSC) technique was used to collect mosquitoes from 30 randomly selected houses, 10 each from the two interventions and control areas between May, 2010 to April 2011.The collection was made once in every month. The Culicine and Anopheline species were sorted morphologically and An. gambiae s.l were identified to sibling species by PCR. Sub – samples of the Anopheles caught were tested for circumsprozoite protein of P. falciparum by ELISA.

Results: A total of 1592 Culex quinquefasciatus were collected out of which 57.2%, 27.6%, and 15.1% were from the control, screened and transfluthrin – treated houses respectively. 396 Anopheline malaria vectors , 339, 27 and 30 were collected similarly from control and the interventions. The indoor resting density and number of blood – fed Anopheline person was 33.6, 6.7 in the control compared to 2.7, 1.3 in the screen and 3.0, 1.0 in the screened andtransfluthrin – treated houses. An.gambiae ss, and An.arabiensis are identified.

Conclusion: Mechanical screening compares favourably with conventional use of treated impregnated fabrics as personal protection against mosquitoes
WE1OP04

WE1OP02

Evaluation of the Possible Mechanisms of Anti-Hypertensive Activity of *Loranthus micranthus:* an African Mistletoe.

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Background*: Loranthus micranthus (LM)*, also called African mistletoe is a major Nigerian *Loranthaceae* plant used traditionally to treat hypertension and other cardiovascular risk factors.

Objective: This study was undertaken to study the effect of LM on pressor-induced contraction of rat aorta smooth muscles and serum lipid profiles in mice.

Methods: The methanolic leaf extract of *L. micranthus* (LMME) prepared by soxhlet extraction was subjected to solvent-solvent fractionation to produce n-butanol (NBF-LMME), chloroform (CF-LMME), ethyl acetate (EAF-LMME) and water (WF-LMME) fractions respectively. The lyophilized fractions diluted to 0 – 1.5 mg/mL concentrations with Kreb's Ringer Bicarbonate solution were administered to aorta rings pre-contracted with norepinephrine and KCl to enable the determination of their median effective concentrations (EC_{50}) and maximum relaxation (R_{max}) Serum lipid profiles, total protein, creatinine and nitrix oxide were determined using spectrophotometric methods in both control and experimental mice administered per orally 250 mg/kg b.w. of each fraction for 21 days. Data obtained were analyzed statistically.

Results: NBF-LMME was found to elicit the highest dose-dependent inhibitory effect on rat aorta pre-contracted with norepinephrine (EC_{50} = 0.65 mg/mL; R_{max} = 75.2%) and KCl (EC_{50} > 1.5 mg/mL; Rmax = 28.2%), followed in decreasing order by WF-LMME > CF-LMME > EAF-LMME. Similar order of activity was observed in the ability of these fractions to inhibit elevation in serum total cholesterol and LDL-cholesterol, raise serum nitric oxide, reduce cardiac arginase and decrease triglyceride levels after 21 days with significant (P <0.05) outcomes observed in NBF-LMME treated mice for all the parameters and WF-LMME treated mice for total cholesterol and LDL-cholesterol. Phytochemical analyses revealed high and moderate levels of terpneoids and steroids were present in the NBF-LMME fraction alone, while tannins, reducing sugars and phenolics generally were in moderate abundance in other fractions. Anthraquinones and cardiac glycosides were not detected in these fractions.

Conclusion: Based on the results of this study, we conclude that the previously reported anti-hypertensive activity of *L micranthus* involves vasorelaxation, cardiac arginase reduction, elevation of serum nitric oxide and anti-artherogenic effect against systemic triglyceride and cholesterol levels in mice with terpenoids, steroids and tannins as potential bioactive substances mediating these mechanisms.

WE1OP03

Laboratory evaluation of the wash resistance of Olyset® and PermaNet® 2.0 long-lasting insecticidal nets in comparison to a conventionally treated net for use in Nigeria

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Background: Long–lasting insecticidal nets (LN) technology has circumvented the need for re-treatment of insecticide – treated nets, which lose their efficacy after washing and are often not retreated.

Objective: Due to the growing demand and usage of LNs in Nigeria, we evaluated insecticide regeneration and wash resistance of the two WHOPES fully recommended LNs, PermaNet®2.0 and Olyset® in comparison to a conventionally treated net (CTN) commonly used in Nigeria.

Methods: Net samples were washed using standard WHO washing and drying protocols. Bioefficacy of nets was evaluated at baseline using standard WHO cone bioassays with the reference susceptible Kisumu strain of *Anopheles gambiae s.s*. To estimate regeneration time, bioassays were carried out every 24 hours on net samples washed once or thrice until the initial baseline bioefficacy was restored. The effect of heat on insecticide regeneration of Olyset® nets was also evaluated at 35, 40 and 50^0C. Wash resistance was assessed using bioassays on day 0 and after the 1st, 5th, 10th, 15th and 20th successive wash. Insecticide retention of the nets was determined by standard CIPAC methods.

Result: All unwashed baseline samples of PermaNet® 2.0, Olyset® and CTNs were highly effective, producing between 98 and 100% knockdown and >98% mortality of *An. gambiae*. Full insecticide regeneration of PermaNet® 2.0 samples was achieved one day after washing, while mortality remained >98% after 20 standard washes even with <50% of the baseline insecticide content. Regeneration analysis showed 21 days for full regeneration of insecticide in Olyset® net samples but heating at 50^0C for 2 hours increased the rate of insecticide regeneration. After 20 successive washes, Olyset® net retained >88% of their original insecticide concentration, but bio-efficacy declined to 88% after 15 washes.

Conclusion: We concluded that insecticide diffusion at ambient temperature in PermaNet® 2.0 alone is sufficient to replace the loss of insecticide on net surface after washing, and showed bio-efficacy corresponding to the baseline data after 20 repeated washes.

WE1OP04

Nephrotoxicity and hepatotoxicity evaluation in wistar albino rats exposed to *nauclea latifolia* leaf extracts.

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Background: Consumption of the aqueous leaf extract of *Nauclea latifolia* as anti-malaria concoction without any recourse or regard for its safety is a common practice in the Northern Nigeria.

Objective: The aim of this study was to evaluate the safety efficacies of the ingestion of the methanolic leaf extract of this plant on the liver and kidney functions in wistar albino rats.

Methods: Acute toxicity tests were carried out to determine the LD_{50} while sub-chronic toxicity study was carried out by oral administration of graded doses (200, 400, 800, 1600 and 3200mg/Kg) of the extract to different groups of rats for 30 days.

Results: Both liver and kidney functions assessed biochemically using standard methods revealed the LD_{50} of *Nauclea latifolia* at 3200mg/Kg body weight as being non-lethal. Biochemical and histological results obtained for the liver and kidney function parameters indicated that ingestion of *Nauclea latifolia* leaf extract has no observable toxic effects on these organs at the tested doses.

Conclusion: It was therefore suggested that these results could form the basis for clinical trial in human.

WE1OP05

Serum levels of Leptin in Nigerian Patients with Sickle Cell Anaemia

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Background: Several studies have shown that the pathophysiology of homozygous sickle cell anaemia (SCA) results in a myriad of metabolic, nutritional, haematological and clinical effects that interacts with other co-morbid factors to determine the quality of life and life expectancy of afflicted patients.

Objective: Because of its critical roles in nutrition and metabolism, inflammation, haematopoiesis and cellular immunity, this study determined the plasma levels of leptin in steady and unsteady states of HbSS in Nigerian patients.

Methods: A total of 51 SCA patients aged 5 – 35 years with 34 (61.8 %) being females who were either on admission or visiting four medical centres in Lagos, Nigeria together with 22 non-SCD controls aged 5 -30 years comprising 12 (54.5%) females were enrolled after obtaining their informed consent and ethical approval. Patients were further stratified into steady and unsteady cases of SCA based on clinical presentations, while blood samples collected by venipuncture from each of the study participants were analyzed haematologically for full blood count and HbF level and microscopically for malaria, while plasma leptin was assayed using ELISA method. Body composition defined by weight, fat mass and body mass index (BMI) was determined using standard methods. Data obtained for cases and controls were analyzed statistically.

Results: Twenty – one patients had unsteady HbSS and elicited greater and significant (P<0.05) reduction in fat mass, BMI, HbF and eosinophil count but elevated mean total leukocyte, count, level of irreversibly sickled cells and *P. falciparum* parasitaemia (4613.7 vs. 749.6 - 1078.4 parasites/uL), pyrexia rate (58.3 vs. 25.8%) when compared with steady state patients or non-SCD controls. Compared to the control, significant decreases in plasma leptin before and after controlling for body fat that was worsened by crisis were observed among the SCD patients. Unlike the non-SCD controls, leptin correlated non-significantly (P>0.05) with all body composition indices measured in the patients except for fat mass in unsteady cases. Multivariate regression analysis identified ESR and RC as independent predictor of low plasma leptin concentration in the SCA patients.

Conclusion: Based on these findings, we conclude that plasma level of leptin is further decreased in the unsteady state of HbSS, shows poor correlation with adiposity and malarial infection but has inflammation and poor reticulocyte response as independent predictors among Nigerian patients.

WE1OP06

Herbal remedies for malaria, rheumatism, and hypertension: A discourse on Africa's medical Indigenous Knowledge

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Background: While there are other methods of health therapies for various diseases in the country, the government, in its adoption of the World Health Organization definition of health, has unwittingly foreclosed tapping the maximum potentials of other health systems through research and development. The dismal health indices in Nigeria today question this monolithic approach to health care delivery and challenge health researchers to explore health care alternatives.

Objective: This paper documents some herbal remedies for the cure of three ailments namely: malaria, rheumatism, and hypertension, and examine their usefulness by discussing them within the African epistemological categorization of natural, preternatural, and supernatural belief systems.

Methods: Twenty-four respondents were randomly selected in Ota market and its environs for in-depth interviews and focus group discussions. Data were transcribed and content-analyzed and further subjected to an interpretative phenomenological analysis for potential explanation of the data.

Results: Traders who sell herbal medicine displayed a remarkable knowledge of its potencies and limitations while all the respondents interviewed agreed to the use of herbal therapies. The health seeking behavior of the respondents suggests a combination of complex factors that include personal beliefs as well as economic, social and cultural influences.

Conclusion: Health policy makers need to be aware of the place of traditional health care system among the populace and design appropriate policy that will recognize and accommodate endogenous health knowledge and services. Additionally, research institutes and health researchers need to define a research framework for a fuller understanding of the working models of traditional medicine in Nigeria.

WE1OP07

Studies on the antiviral activities of *Tetrapleura tetraptera* extract against Newcastle Disease (ND) Virus (kamarov).

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Background: Emerging and chronic viral diseases are of increasing worldwide health concern both in the veterinary and human medicine and so the need to identify traditional plants with antiviral activity. Newcastle disease is regarded throughout the globe as one of the most important diseases of poultry due to its high contagious and mortality rate. Traditionally, *Tetrapleura tetraptera* (ohiolohio, ukpananwanambe, ura-ura) is used in combination with other plants in the treatment and management of yellow fever, hepatitis and oral chancre by Herpes Simplex Virus by some traditional Medical Practitioners in South east, Nigeria.

Objective: The study was carried out to determine the phytochemical content and inhibitory effect of the methanol extract of this plant on NDV when assayed in embryonated chicken eggs.

Methods: The antiviral effects of the methanol extract of *T. tetraptera*(concentrations: 200mg/ml, 20mg/ml and 2mg/ml) on NDV was assayed in 9-11 day old embryonated chicken eggs at pre-infection(Pi), during-infection(0hr) and post-infection(Po) inoculation time. Phytochemical tests were conducted using modified techniques by Trease and Evans.

Resulst: Phytochemical analysis revealed the presence of resin, tannin, protein, alkaloid, oil, steroid, terpenoid and cardiac glycoside. The following percentage inhibition on NDV were obtained with the different concentrations used; Pi (91.7%, 75%, 58.3%), 0hr (100%, 75%, 58.3%) and Po (75%, 62.5%, 50%) (P<0.05).

Conclusion: In this antiviral study, the plant used was found to have antiviral activity against NDV as a hundred percentage inactivation was obtained in 0hr 200mg/ml.

WE1OP08

Evaluation of the antioxidant effects of _Hibiscus Sabdariffa_ Calyx extracts on 2, 4 dinitrophenylhydrazine-induced oxidative damage in rabbits.

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Background: Aqueous and anthocyanin-rich extracts of dried calyces of _Hibiscus sabdariffa Linn,_ have been evaluated for antioxidant bioactivity.

Methods: They were assessed for antioxidant activity based on their ability to impair 2, 4-dinitrophenylhydrazine (DNPH)-induced oxidative damage in selected organs of the toxicant exposed rabbits. The organs examined were the blood and liver.

Results: Exposure of rabbits to DNPH (28 mg/kg body weight) caused significant ($P<0.05$) reduction in PCV, hemoglobin level, RBC count but increased WBC count relative to the DNPH-free rabbits. L- Alanine and L-aspartate aminotransferase activities were significantly ($P<0.05$) increased in the serum of DNPH-exposed rabbits compared to the DNPH-free rabbits. There were corresponding decreases in the liver status of both enzymes. DNPH exposure also caused significant change in malondialdehyde and total protein levels in serum and liver relative to DNPH-free control. However, pre-treatment with (100 mg/kg body weight) whole aqueous extract of _H. sabdariffa (HS)_ and _HS_ calyx anthocyanins, provided varying degrees of protection against DNPH-induced biochemical and hematological changes. Relative to the controls, whole aqueous extract and anthocyanin-rich extract treatments increased the levels of PCV, hemoglobin and RBC and decreased WBC count significantly ($P<0.05$) and so, effectively ameliorated the DNPH-induced hemotoxicity. The same treatments significantly lowered the activities of L-ALT and L-AST in the serum relative to the DNPH-exposed group, while maintaining the normal levels of the enzymes in the liver. The treatments also significantly ($p<0.05$) lowered the level of malondialdehyde while increasing the level of the total protein in the tissues.

Conclusion: Examined separately and compared, the calyx anthocyanins of HS appeared to have offered similar but more effective protection than whole aqueous extract, against DNPH-induced oxidative damage and so _H. sabdariffa_ calyx possesses potent antioxidant principles which are likely to be anthocyanins.

WE1OP09

Effects of Avocado (Persea americana) leaf extracts on body weight and lipids in rats fed hyperlipidaemic diet.

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Background: Hyperlipidaemia is an important factor in the pathogenesis of chronic degenerative diseases. It is now established that a series of phytochemicals hold considerable promise in combating diseases.

Objective:The aim of this study was to test whether the leaf extracts of avocado (Persea americana) would influence body weight gain and lipidlevels in rats.

Methods: Hyperlipidaemia was induced by feeding male rats with a modified diet containing 0.5% cholesterol and 0.25% cholic acid. The hyperlipidaemic rats were treated daily with either aqueous (AEPA) or methanolic (MEPA) extract of P. americanaleaf(10 mg/kg body weight) for 8 weeks.

Results: There were no significant differences ($p > 0.05$) in the overall body weight gain of the hyperlipidaemic rats compared to normal control. However, mean liver weights were markedly increased ($p > 0.05$) in rats fed hyperlipdaemic diet. Administration of AEPA and MEPA provoked reduction in the body weight gain, total cholesterol and LDL-cholesterolin the treated rats compared to the untreated. Similarly, HDL-cholesterol concentration was increased in rats treated with the extracts.

Conclusion: These findings suggest that the leaf extracts of   P. americanainfluence lipid metabolismin hyperlipidaemic rats with consequent lowering of total and LDL- cholesterol and a restoration of HDL-cholesterol.This could represent a protective mechanism against the development of atherosclerosis.

WE1OP10

Assessment of hepatoprotective activity of aqueous leaf extract of *P. americana* against CCl$_4$-induced damage in rats

BIC Brai[1], AA Odetola[2], SK Akindele[1], TW Fesobi[1], PU Agomo[1].

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Background: Experimental intoxication induced by carbon tetrachloride (CCl$_4$) is widely used for modeling liver injury in rats.

Objective: This study evaluated the hepatoprotective properties of aqueous extract of *P. americana* (AEPA) against CCl$_4$-induced hepatotoxicity in rats.

Methods: Hepatotoxicity was induced by treatment of male rats with CCl$_4$.
CCl$_4$-intoxicated rats were pre-treated with either 100mg or 200mg kg^{-1} body weight AEPA. Normal control rats received standard chow and water only.
Hepatoprotective effect of *P. americana* was evaluated by assay of liver enzymes, bilirubin and histopathology of the liver. Data were analyzed by ANOVA. Statistical significance of the difference of the means was evaluated by Student's t-test.

Results: Hepatoprotective effect of AEPA was indicated by significant decreases (p < 0.05) in total bilirubin, AST, ALT, and ALP in the treated rats compared to the control.
Administration of AEPA reversed (p < 0.05) the increases in the levels of GSH, CAT and SOD caused by CCl$_4$-intoxication. Histopathological analysis showed that AEPA reduced the severity of necrosis, cellular infiltration and fatty change in the liver.

Conclusion: These results suggest that aqueous leaf extract of *P. americana* possesses hepatoprotective properties which may account for its use in traditional medicine and could be further exploited in the management of inflammatory diseases.

Wednesday 16th November 2011

Track 2

WE2OP01

Modes of HIV transmission; an analysis of distribution of new infections in Nasarawa state and recommendation for prevention

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Background: Periodic analysis of modes of HIV transmission is necessary for prevention programme planning.

Objective: The objective of the study was to estimate the distribution of new HIV infections among adult population (15 -49yrs) and to identify the group(s) at highest risk of HIV infection in Nasarawa State to inform HIV prevention programme planning.

Methods:The study was based on the UNAIDS' Modes of HIV Transmission Incidence model. Persons aged 15 - 49 years were divided into independent groups based on their risky behaviours. Demographic, epidemiological and behavioral data were collected for each risk group from available survey reports/documents and inputed into the UNAID's MOT Model spreadsheet.

Results: The model estimated that there are currently 54,500 HIV infected persons in Nasarawa state and predicted that there would be about 3,335 new infections in the next one year amongst the 15-49 years population. Forty six percent (46%) of new infections would occur amongst persons reported 'low risk', a sub-population that includes cohabiting or married sexual partners. The Intravenous Drug Users, Female Sex Workers and Men Having Sex with Men and their partners are estimated to contribute 20.7% of new infections while they constitute only 12% of the population.

Conclusion: Persons reporting low risk sex practices, a sub-population that includes cohabiting or married sexual partners need to be targeted with appropriate HIV prevention interventions such as HIV Counselling and Testing, condom promotion, Interpersonal communications and other partner reduction strategies. Efforts should be intensified to correctly estimate the demographic characteristics and locations of Men having sex with men, Intravenous drug abusers**,** and clients of high risk groups and to design suitable interventions targeting them.

WE2OP02

Clinical Diagnosis of Malaria infection is associated with over diagnosis in cases of suspected malaria

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Background: Malaria continued to be a major challenge to our healthcare delivery system, with misdiagnosis and empirical treatment compounding the already bleak picture. WHO had continued to emphasis the importance of laboratory diagnosis before commencement of treatment. Determining the level of misdiagnosis averted by this strategy will be useful in planning future campaign.

Objective: To determine the prevalence of malaria parasitaemia among individuals requesting malaria test and the seasonal variation in malaria parasitaemia..

Methods: The blood samples of persons requesting for malaria parasite test at a district laboratory over a one year period were evaluated for malaria parasite using standard techniques. Relevant sociodemographic and biologic characteristics were also collected.

Results: A total of 843 persons requested malaria test during the period of study, of which malaria parasite were identified in the blood sample of 239 (28.4%) clients. The parasite density ranges from 34- 52127 mp/ul with a mean of 2840.4. Majority of those infected with malaria parasitaemia were males (59.4%). Early and late parasite stages were mostly seen (27.4% and 35.4% respectively). *Plasmodium falciparum* was the parasite identified in 90.3% of the samples. *P ovale* was found in 1% of the samples. The month of greatest infestation was the month of June.

Conclusion: The study showed that reliance of clinical diagnosis for the treatment of malaria will lead to over diagnosis in over 70% of cases of suspected malaria. Highlighting the need to treat malaria only when there is a positive laboratory test if we must reduce cost and avert emergence of resistance.

WE2OP03

Successes and Challenges of implementing HIV counselling and testing services at a large HIV treatment centre in Lagos, Nigeria.

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Background: Huge gaps still exist despite the efforts and investment towards universal access to the HIV care. Narrowing these gaps requires the identification of HIV infected individuals through counselling and testing.

Objective: To evaluate the success and challenges of implementing HIV counseling and testing services at a large treatment centre.

Methods: The successes, achievement and challenges experienced in the implementation of the programme were reviewed. Additional relevant information were extracted from the registers and clients counseling records.

Results: A total of 41,585 clients were provided HCT services at the centre during the seven years period with a result pick up rate of 98.9%(41169). Of the total client seen, 14,741(36%) were found positive. Women (51.7%) and those with the age group 15-49years (68.5%) account for the majority of clients. The most common reason for testing includes knowing my HIV status, feel unwell, marriage requirement, antenatal requirement and my partner tested positive. Further analysis showed a drop of 28.1% in the number of clients screened for HIV from 9295 in 2009 down to 6682 in 2010. A total of 1,113 counsellors were trained during the period. Non-availability of test kits and refusal of some clients to disclose their positive status to their spouse were the major challenges encountered.

Conclusion: The HIV counseling testing services is well established in NIMR and provides HCT services to clients as well as practical training for the national programme. However non availability of test kits and non-disclosure of HIV status to spouses could hamper the sustainability of this programme.

WE2OP04

Unsterile surgical dressing and sanitary towels in Lagos markets: a cause for concern.

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Background: Sterile equipment and consumables are essential in quality health care delivery and personal hygiene. However infections following the use of supposedly sterile gauzes and sanitary towel are increasingly being reported in Nigeria.

Objective: To determine the sterility of various brand of surgical dressing materials and sanitary towels and characterize the contaminating microorganisms.

Methods: Sixty one packs of different brands of surgical consumables, cotton wool and sanitary pads were randomly selected from various markets in different parts of Lagos. Inoculation for each brand was done in triplicate following standard methods. All bottles with evidence of growth were subcultured onto Blood agar, Mueller Hinton and MacConkey (Oxoid) and incubated at 37°C aerobically for 18-24 hours while all bottles with no evidence of growth were examined daily for up to 7 days and a terminal subculture was done. All isolates obtained, were gram stained and appropriate biochemical tests were carried out according to gram reaction. The antibiotic sensitivity pattern of bacteria isolates were also conducted using standard methods.

Results: Forty seven (77.0%) of the investigated samples were found to be contaminated. Two hundred and forty-two bacterial and fungal isolates were recovered from these contaminated products. Cotton wool packs were the most contaminated for 86% of the isolates. The foreign made products had significantly less contamination that the local made (P<0.005). Nine (90.0%) of the 10 sterile towels were found to be contaminated. Swab stick was the least contaminated as only 20% were found contaminated with microbes. One (25%) locally made plaster pack was the only plaster pack found to be contaminated. The most common bacterial isolates were *Bacillus spp (57.0%) and E. coli* (45%). Most isolates were only susceptible to ciprofloxacin and perfloxacin as they were resistance to common antibiotics of chloramphenicol, ampicillin and septrin.

Conclusion: The high rate (77%) of microbial contamination of supposedly sterile hygiene products in Lagos market is be a source concern to all Nigerians. It is therefore recommended that NAFDAC should conducted periodic surveillance in all licensed hygiene products to prevent morbity and mortality associated with the use of contaminated products.

WE2OP05

Trends of Pulmonary Tuberculosis in HIV positive Nigerian Children

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Background: There is paucity of data on trends of tuberculosis in children in sub-Saharan Africa especially in the wake of HIV epidemic .Thus there is need to have knowledge of the trends of pulmonary tuberculosis amongst HIV Paediatric Patients.

Objective: The objective of the study was to determine the trends of pulmonary tuberculosis in paediatric HIV patients attending the Nigerian Institute of Medical Research (NIMR) Paediatric ARV Clinic.

Methods: A Database review of records of Paediatric HIV patients enrolled from January 2006 to December 2010 was done and the trend of PTB for the study period was then evaluated . Data analysis was done using SPSS window version 15.0.

Results: A total of 197 patients were found to be HIV/PTB Co-infected of which 52.2% were males . At PTB diagnosis ,95% were category 1 PTB ,the median CD4+ T cell count percentage and viral load was 15.7% and HIV RNA log 5.18 .A decrease in the trend of PTB was seen from 54.7%(2007) to 14.2%(2010). The most affected age group being the under fives (59.7%).

Conclusion: A decrease in the trend of PTB was observed with the under fives being the most affected.

WE2OP06

A Comparative Analysis of Mycobacterial Isolates from Tuberculosis Patients in a Referral Laboratory.

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Background: The burden of tuberculosis (TB) and its association with human immunodeficiency virus (HIV) continues to be of concern in sub-Saharan Africa. Mycobacteria other than *Mycobacterium tuberculosis* (MOTT)) which are refractory to existing therapeutic options are increasingly being implicated in the spectrum of HIV/AIDS related diseases. Little is known of the extent of this association in our setting in Nigeria. We therefore compared the isolation rate of Mycobacterium tuberculosis complex (MTBC) and MOTT by HIV status among TB patients.

Methods: Seven hundred and thirteen consecutive clinical specimens received at the TB Reference laboratory of the National Institute of Medical Research, Lagos from April 2008 to January 2009 were processed using the modified Petroff technique. The deposits were cultured on Lowenstein Jenseen slopes and incubated for three to eight weeks at 37°C. All mycobacterial isolates were identified and classified as either MTBC or MOTT. The source of isolation, patient's demographics and HIV status using the existing national guideline was also obtained.

Results: Of the 713 patients, clinical and demographic results were available for 397 (221 females and 176 males). The frequency of occurrence of mycobacteria was 55.70% of which 72.0% were MTBC and 28.0% MOTT. The overall HIV sero-positivity rate among those with mycobacterial infection was 26.5% (105) although 18.1% (72) were not tested for HIV. Of the patients who were sero-positive for HIV infection, 68.57% yielded growth for *M. tuberculosis while 31.43% yielded MOTT.* Only two patients had both *M. tuberculosis* and MOTT isolated from their specimens. There was a statistical significant difference (p= 0.05) in the isolation rate of MOTT from HIV/TB co-infected patients compared to those with TB only.

Conclusion: A high percentage of HIV infected individuals were infected with MOTT. We therefore conclude that TB control measures may be improved by recognizing the role of MOTT in mycobacterial infection especially in high risk groups.

WE2OP07

Preliminary report on survey and mapping of leading causes of childhood mortality in Nigeria.

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Background: Infant and under 5 mortality are a measure of a country's standard of living. Nigeria has one of the worst childhood mortality rates in the world. To achieve the MDG of reducing childhood mortality, the leading causes and factors associated with these deaths have to be determined so that appropriate intervention can be provided.

Objective: To determine the leading causes and factors associated with under 5 mortality in tertiary hospitals in Nigeria for the period 2005-2009.

Methodology: A multistage sampling procedure was used to select representative teaching hospitals in the six geopolitical zones of the country. A questionnaire was used to collect data from individual patient's case notes and mortality record card on sociodemographic characteristics and cause of death. Ethical approval was obtained from the NIMR IRB.

Results: A total of 1687 questionnaires have been completed so far from the teaching hospitals in Lagos, Sagamu Enugu, Port Harcourt and Ilorin. Distribution of causes of death showed that infectious diseases were the major killers (47.8%). Age distribution at death peaked at the 4 weeks – 1 year age bracket. Though the number of death due sickle cell was not significant, it was observed that there was no death due to sickle cell anaemia from Enugu centre. Gender disparity is noticeable in the causes of death, as boys had a higher risk of dying than girls.

Conclusion: The results indicate that infectious disease especially septicaemia and acute respiratory illness still account for the Major cause of childhood deaths (26%) in the four areas studied.

WE2OP08

Risk Factors of Cholera Epidemic in Bauchi and Gombe States, Nigeria

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Background : Cholera has been classified as a re-emerging global threat and primarily linked to insufficient access to safe clean water, crowded living conditions, poor hygiene and sanitation. The Federal Ministry of Health reported 37,289 cases and 1,434 deaths between January-October 2010. Also this year more than 2156 cases and 234 deaths had been reported.

Objective: Investigation of the knowledge, perception, health behaviour and case management of patients infected with cholera.

Method: A cross-sectional study with the use of semi-structured questionnaires and in-dept interviews for data collection at the cholera treatment camps in Bauchi and Gombe States.

Results: A total of ninety-two respondents were interviewed from both States. Only 44.6% of those interviewed correctly mentioned lack of safe and clean water for drinking, poor sanitation and food contamination as cholera transmission routes. A larger proportion (50.0%) either did not know or had misconceptions such as fever, hot weather and fate from God (Allah) as the causes. It is disturbing that children aged 1-5 (23.9%) years were the most affected alongside adolescents aged 13-24 (23.9%) years. Only 33.7% had access to safe and clean drinking water.

Conclusion: The results provide insights for planning promotional programmes and show that not only are information, education and behavioural change communication efforts needed to boost knowledge about cholera, community and policy changes are imperative in creating a supportive environment, people need to take encouraging step of taking preventive measures against the disease at the individual, household and community levels which would eventually transcend the whole State.

WE2OP09

Herpes Simplex Virus-2 sero-testing, knowledge and attitude among HIV counselling and testing attendees at the Nigerian Institute of Medical Research, Lagos.

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Background: HSV-2 as an ulcerative mucocutaneous disease has been shown to facilitate the transmission of HIV infection. Early identification and treatment is fast becoming a strategy for preventing HIV transmission.

Objectives: To examine the association between HIV infection and HSV-2 among Nigerians and determine the level of knowledge and attitude to HSV infection.

Methods: A cross sectional study among clients presenting for voluntary HIV counselling and testing. Participants were counselled for HIV and HSV-2 testing, completed a self administered questionnaire and had blood sample taken for Enzyme Immuno Assay, for the determination of IgM antibodies to HSV-2 . Data analysis was with SPSS for window Version 17.

Results: Of the 258 participants enrolled in the study, majority were female (60%) and within age group 24- 29 (22.6%). The prevalence of HIV and HSV 2 among the participants was 29.8% and 9.7% respectively. 7.8% tested positive to both HSV and HIV, with further analysis showing that the HSV prevalence among the participant that tested positive to HIV was significantly higher than participant that tested negative to HIV (P= 0.01). Only 18 (7.0%) of the participants knew that HSV is the causative agent of genital herpes.

Conclusion: The link between HSV and HIV infection is confirmed by this study showing a high prevalence of HSV infection among HIV positive participants. The knowledge of HSV infection and its role in HIV transmission is very low. There is the need to increase the current level of awareness so as to enhance early diagnosis and treatment, thus reducing HIV infection.

WE2OP10

Limitations to access and use of malaria control interventions among pregnant women and children under five years in ogun state Nigeria.

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Background: This study examined factors that promoted or militated against the effective delivery and utilization of malaria control intervention namely, Home management of malaria (HMM), Artemisin based combination therapy(ACT), long lasting Insecticidal Nets(LLINs), and Intermittent Preventive Treatment of malaria in Pregnancy (IPTp) relative to passes deadline of the Roll Back Malaria(RBM) programme in Ogun state, Nigeria.

Methods: It is a survey of pregnant women attending antenatal clinics and mothers of under five children and in-depth interviews with health workers in Ijebu North and Yewa North Local government areas of ogun state.

Results: Few(23.0%) of the respondents knew ACT, 25.5% and 17.4% used analgesics and chloroquinne respectively contrary to ACT(0.7%) for malaria treatment. While 45.5% knew LLIN, only 23.6% used it. Lack of awareness was the major reason for non use of ACTs (86.1%) and LLINs (71.3%). About 47.0% of the pregnant women knew about IPTp, few (43.5%) had received at least two doses. Only 13.4%) of the pregnant women used treated nets and had received at least a preventive dose IPTp for effective malaria prevention. Accessibility and use of the intervention were significantly determined by locality, age, education and health facility visited for antenatal care. Malaria control activities involved more community participation in Yewa North than Ijebu North. Health workers identified insufficient funding, inconsistent/inadequate supplies, and transport difficulties as impediments.

Conclusion: Results showed poor awareness and low use of the control interventions below RBM targets. Adequate information and intervention materials need to made available under public private partnership with more community participation to enhance accessibility and use in the study communities.

WE2OP11

Evaluation of Viral and Bacterial Risk Factors of Cervical Cancer for Effective Control.

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Nigerian Institute of Medical Research

Background: Cases of cervical cancer are on the increase in Nigeria. A cross sectional study was carried out to investigate risk factors associated with Cervical Cancer.

Objective: To determine risk factors associated with cervical cancer

Method: A total of 200 women were investigated for pre-cancer cells and associated viral and bacterial risk factors. Endocervical and high vaginal swabs as well as blood samples were collected from each female. The swabs were tested with Acetic Acid (AAT) for pre-cancer cells, Chlamydia and other agents of vaginitis. Blood samples were used to screen for HPV.

Results: Of a total of 200 women, 7 (3.5%) were positive for pre-cancer cells,29 (14.5%) were positive for HPV, 22 (11%) for Chlamydia,23 (11.5%) for Candida albicans 7 (3.5%) for Trichomonas vaginalis and 49 (24.5%) for BV. Using the Pearson's correlation p-values were significant for HPV ($P < 0.05$) and Chlamydia ($p < 0.01$) in relation to Cervical Cancer. Other pathogens were non-significant at $P > 0.05$. As F-value (0.7346) increased p-value decreased indicating always that for every detection of a combination of HPV and Chlamydia, there is an increase risk of Cervical Cancer.

Conclusion: It is suggested that every annual Pap Smear test for women, should be followed with tests for HPV, Chlamydia and vaginitis.

WE2OP12

Baseline Entomological and Parasitological Assessment for Indoor Residual Spraying intervention at Ikorodu and Ojo Local Government Areas of Lagos State.

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[1]LSMOH, [2]BC Oyo, [3]WHO, [4]University of Lagos, [5]Nigerian Institute of Medical Research

Background: Indoor residual spraying (IRS) is a major intervention for malaria control. The feasibility of IRS and choice of Insecticides is guided by evidence based evaluation processes. This study was conducted to provide pre-intervention baseline entomological and parasitological indices for effective planning, monitoring and evaluation of IRS intervention in Ikorodu and Ojo Local Government Areas of Lagos State.

Objective: To determine malaria prevalence and identify major malaria vectors and entomological indices in Ikorodu and Ojo Local Government Areas of Lagos State.

Methods: The study was conducted in Ikorodu and Ojo LGAs. Prior advocacy, community sensitization and training of field officers were conducted. Using a Global Positioning System, four sites were identified from each LGA where adult mosquitoes were collected from 10-20 random selected houses using standard methods. Laboratory analyses were conducted using three classes of insecticides: Pyrethroid, carbamates and Organochlorines. Parasitological assessmentwas carried out using blood smears for malaria microscopy and hemoglobin determination from 400 participants in three selected sites in each study LGA.

Results: A total of 411 adult mosquitoes were collected. 82% (339) were from Ojo and 18% from Ikorodu. The average indoor resting density ranged from 1.0 - 6 mosquito per room per day. Anopheles constitutes 42 and 52% of the mosquito population at Ikorodu and Ojo respectively. Malaria vector were highly (95-100%) susceptible to the three classess of insecticide tested. Malaria prevalence at Ikorodu LGA (15.7%) was significantly ($P<0.05$) higher than Ojo (6.03%). There was a predominance of Plasmodium falciparum >90%, high gametocytaemia, and evidence of P. ovale and P. malariae as single or mixed infection in Ikorodu LGA and low levels of anemia in children in both LGAs.

Conclusion: The high malaria prevalence and parasite densities in both LGAs required urgent scaling up of malaria control interventions. This in combination with the entomological data provided evidence and baseline data for the implementation of IRS in both LGAs.

Wednesday 16th November 2011
Track 4

WE4OP01

Gender and TB/HIV co-infections at the National TB Reference Laboratory in Lagos, Nigeria.

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Background: Tuberculosis is responsible for more deaths in male and female around the world than any other infectious disease. Reports have shown that responses to tuberculosis may differ between men and women.

Objective: To determine the gender prevalence of TB/HIV co-infections amongst patients with symptoms suggestive of tuberculosis.

Methods:1348 patients were screened for AFB by microscopy and culture using NALC-NaOH method at the National TB Reference Laboratory, Lagos from January 2010 to August 2010. Information on HIV status of each patient was obtained from their medical records. Ziehl-Nelseen stained smears were made from the final deposits and examined under light microscopy for AFB. Concentrated sediment was also inoculated on solid medium (LJ) and incubated at 370C for 8 weeks. Slopes with growths, smears of colonies were made, stained by ZN and examined for the presence of AFB.

Results: Of the 1348 patients, 334 (24.8%) were positive for AFB, 945 (70.1%) had HIV infection and 209 (15.5%) were TB/HIV co-infected. Prevalence of co-infection was 35.4% and 64.6% among males and females respectively (p<0.05). Age-related prevalence of co-infection was least among patients of age below 10 years (6.2%) and highest among those of age 21-30 years (66.5%).

Conclusion: The results showed that females have the highest rate of TB/HIV co-infection and has further confirmed that tuberculosis is the number one infectious disease killer of women. Therefore, it is imperative that health care workers in areas of high HIV and tuberculosis prevalence should encourage women to present for screening at first sign of tuberculosis symptoms.

WE4OP02

Reducing the number of sputum specimens for diagnosis of tuberculosis: Impact on case detection and patients' drop out.

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Background: The current WHO policy recommends reduction in the number of specimens to be examined for tuberculosis (TB) diagnosis from three to two in places with well functioning external quality assurance system, high workload and limited human resources. This recommendation came up because poor patients in resource-limited settings face long and sometimes incur costly transportation fare to access TB services.

Objective: To evaluate the impact of reducing the number of specimens for TB diagnosis on case detection and patients' drop out.

Methods: This retrospective study compared data obtained from the 2 different approaches recommended by WHO on the number of sputum specimens for TB diagnosis. Patients were enrolled into approach A (those that submitted 3 sputum samples) and B (those that submitted 2 samples). Microscopy results of patients in approach A were studied alongside with that of those in B. Data analysis was done with Epi Info 3.5.1 statistical software.

Results: A total of 126 and 177 patients were enrolled in approach A and B respectively. Among the approach A patients, 26 (20.6%) were TB positive with majority 11(42.3%) detected with the first sputum specimen. Second specimen gave an incremental yield of 4(15.4%) while the incremental yield of the third specimen was 2(7.7%) (P<0.05). Defaulters rates in approach A and B were 55(43.7%) and 19 (10.7%) respectively.

Conclusion: This findings show that reducing the number of sputum specimens from 3 to 2 will enhance case detection and also decrease the number of patients dropping out of the diagnostic pathway.

WE4OP03

Parvovirus B19 IgM Antibody in Children with Maculopapular Rash and Fever in Southern Nigeria

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Background: Maculopapular rash especially if accompanied by fever is routinely diagnosed as measles virus infection. However, studies have shown that other causes include rubella virus and parvovirus B19. Differential clinical diagnosis of these viral infections is usually difficult since they all present with almost the same type of symptoms which include fever, malaise, myalgias headache, maculopapular rash, arthralgias.
In view of the WHO measles eradication program, blood samples were collected from children presenting with rash and fever in the southern Nigeria and screened for measles and rubella virus.

Objective: This study is aimed at surveying the incidence of Parvovirus B19 IgM in these same children.

Method: Serum from 907 children presenting with fever and rash at health centers in Southern Nigeria between June 2007 and April 2011 was used for this study. The serum was screened for Parvovirus B19 IgM antibodies using ELISA test kits manufactured by DRG Instruments GmbH Germany. Procedure is according to the manufacturer's protocol.

Results: Of the 907 children screened for parvovirus B19, 86(9.5%) had IgM antibodies of which 39 (4.3%) were males while 47(5.2%) were females.

Conclusion: This result has emphasized the need to compliment routine clinical diagnosis for measles with laboratory investigation for rubella or parvovirus B19 infection in children, as all the children enrolled for the study were presumed cases of measles virus infection.

WE4OP04

Prevalence of Human Papilloma Virus IGG among women in Lagos state, Nigeria

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Background: HPV is one of the most common causes of sexually transmitted disease in both men and women worldwide. It is transmitted through vaginal, anal, and oral sex and can spread without visible warts. In developing countries, cervical cancer is often the most common cancer in women and may constitute up to 25% of all female cancers.

Objective: To establish the prevalence of HPV antibody in women in Lagos Nigeria

Methods: Using semi structured questionnaire, demography and past experiences of the women were obtained after obtaining consented.
The sera obtained are screened for HPV IgG using ELISA test kits by Diagnostic Bioprobes (DIA.PRO) Milano-Italy. Manufacturer's instruction is adhered to.

Results: A total of ninety participants were recruited and screened for HPV IgG. Twenty four (26.67%) are positive. Eighty one (90%) of the participants is married and 20 (24.7%) positive. Four (44.4%) of the 9 (10%) single participants were also positive. Most of those positive for the antibodies are in the age group 30-50 years.

Conclusion: A high prevalence of HSV and HPV antibodies was observed in the study yet none of the participants had received the HPV vaccine thus the antibodies is from infection . Implication is that the 24 women who tested positive for the HPV antibodies are at risk of cervical cancer.

WE4OP05

The burden of bacterial vaginosis in Lagos , Nigeria

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Clinical Diagnostic Laboratory, Nigerian Institute of Medical Research Yaba, Lagos.

Background: Bacterial Vaginosis (BV) is an identified cause of reproductive ill heath in women. However, little work has been done on the burden of illness among Nigerian women.

Objective: To determine the burden of BV among women with genital tract complaints.

Methods: HVS was collected from women presenting with genital tract complaints at Clinical Diagnostic Laboratory, Nigerian Institute of Medical Research Yaba, Lagos over a twenty four month period (September 2009 to September 2011). Samples were examined using Amstel Criteria and diagnosed as having BV if three out of the four criteria were present. Data management was with EPI INFO statistical software Version.

Results: During the period of study, HVS was collected from 283 women after informed consent. The age of the women ranged from 18 to 65 years with a mean of 31.2 years. Two hundred and sixty six (93.9%) had abnormal discharge, 178(62.9%) had moderate to profuse discharge, 242 (85.5%) had vaginal pH of   4.5. Positive amine test was observed in 142(50.2%) patients and 101(35.7%) had clue cells in the discharge. Only 175 (61.8%) of the women had BV using Amstel Criteria.

Conclusion: The rate of BV (61.8%) among the women in this study is high and thus calls for public enlightment/ health education on the dangers of unhealthy vaginal practices and indiscriminate use of antibiotics among our women.

WE4OP06

Nutritional status of febrile and non febrile children under five years at Ebute Metta Lagos state.

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Nigerian Institute of Medical Research, Yaba Lagos Nigeria

Background: Under nutrition is considered to be the underlying cause of more than 50% of deaths of under five in the developing countries. In Nigeria an overall under 5 mortality rate was 201/1000 live births and a major cause is febrile conditions, usually associated with malaria, measles, pneumonia, etc.

Objective: To determine the nutritional status of children under five years with febrile conditions in comparison with non febrile children.

Methods: The study was cross sectional in design. Children with febrile conditions were recruited from Ebute Meta Health centre and non febrile children from a nursery school at Ebute Metta. Throat swabs, stool and blood samples were collected and processed microbiologically for identification. Data on weight, age and height of the children were collected and analysed using Epi Info package to determine the nutritional status through their anthropometric indices

Results: 222 children were recruited for the study in which 146 (80 males and 66 females) had febrile condition and 76 (31 males and 45 females) were non febrile. 23.8% of the febrile and 5.2% of non febrile children had stunting while 26.5% of febrile and 23.4% of non febrile children had thinness due to malnutrition. In febrile children with thinness, 13.8%, 100% and 89% of them had malaria parasite, stool bacteria and throat bacteria respectively.

Conclusion: The higher percentage of stunting and thinness in febrile children due to poor nutritional status could be an indication of a predisposing factor to febrile condition.

WE4OP07

The need to reorganize and focus training and practice of clinical pharmacy in Nigeria

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Background and Objectives: The purpose of the study was to establish that there was need for major changes [reforms] in the way pharmaceutical care and training were being carried out in university hospitals in Nigeria.

Method: Four hundred [400] pre-validated self administered questionnaires were posted to the Northern, Central and Southern parts of the country, to be randomly distributed mainly among hospital pharmacists-for convenience, but also to any other pharmacists that were trained in Nigeria. EPI Info Version 6 software was used to analyze completed questionnaires.

Results: Response rate of 75% was achieved, with 300 questionnaires analyzed. Respondents accepted outpatient dispensing to often consist of a "hurried exchange" with "scanty communication" between pharmacist and patients to be "true", 189[63.0%] or "partly true" , 96[32.0%]. Pharmacist interaction with inpatients was described to occur "always", 17[5.7%] "sometimes", 116[38.7%] "rarely", 136[45.3%] "not at all", 27[9.0%] and non-response, 4[1.3%]. The dispensing process in university hospitals compared with secondary or primary care centers were "very similar" or "similar" to 163[54.5%], while "different" and "very different" made up only 124[41.5%]. Clinical pharmacy lecturers of associated universities should be appointed consultants to university hospitals, 238[79.4%], as they had the potential to provide the highest level of pharmaceutical care possible in the country, 256[85.4%].

Conclusion: The investigation confirmed that reforms were required in order to transform pharmaceutical care, training, research and primary care in all ramifications in Nigeria. A new organizational structure has been recommended to improve the effectiveness of the faculties of pharmacy in our universities.

WE4OP08

Survey of Antibodies to Dengue Fever Virus and Respiratory Syncitial Virus in Febrile Children Under Five Years in Ilorin, Kwara State, Nigeria

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Background: Child mortality remains high in developing countries and distribution of causes of deaths in the African region is reported as 21% for respiratory infections, 17% each for malaria and diarrheal diseases, 7% for 4% for HIV and measles respectively. In Nigeria, mortality rate of children <5yrs is 201/1000 live births. Fever is common to almost all infectious diseases and in Nigeria virtually all febrile children are assumed to have malaria infection and treated thus.

Objective: With the overlap in signs and symptoms of common childhood illness, this study was carried out to investigate the presence of dengue fever Virus (DFV) and Respiratory Syncitial Virus (RSV) in febrile children < 5 in Ilorin, Nigeria.

Methods: - With informed consent, blood and throat swabs were collected from 130 febrile children under five years attending the children specialist hospital, Ilorin, Sera from the blood were processed for identification of DFV IgM antibodies and RSV IgG antibodies using ELISA test kits by IVD according to the manufacturer's instructions.

Results: A total 130 children screened, 40(30.8%) had DFV IgM antibodies while all the children had RSV IgG antibodies. There was no difference in the gender distribution of the DFV IgM antibodies among the children.

Conclusions: From the result obtained it is obvious that many cases of fever that are treated as malaria are not malaria thus some of this viral infections should also be queried in cases of fever in children especially DFV as Nigeria is endemic for the virus.

WE4OP09

Helicobacter pylori infections and gastric malignancy/pre malignant lesions among Nigerian population- Need for national surveillance.

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Background: *Helicobacter pylori* infection is an emerging infectious disease, which is gradually ravaging the human population especially in the developing countries because of lack of adequate knowledge, expertise and research into its prevention and control. The organism popularly implicated in peptic ulcer disease and gastritis have been associated with other debilitating disease such as gastric cancer (classified as a grade-one carcinogen-by WHO arm of International Agency on cancer), headache, short stature in children, migraine among others.

Objective: The objective of this study is to investigate the possible link of Helicobacter pylori to gastric malignancy or pre malignant lesions among adult Nigerian population and also screen for the presence of H.pylori among asymptomatic children.

Methods: Biopsy and stool samples were taken from 302 adults who had gastrointestinal disorders and 120 asymptomatic children respectively. Presence of H.pylori was detected from the biopsies and stools using the PCR technique and the stool antigen ELISA method respectively.

Results: Of the 302 adults, antral gastritis which was found in 287(95%) and ninety-seven (34%) of the 287 were H. *pylori* positive while 190 (66%) were negative. Fifteen had gastric carcinoma out of which 7(46.7%) were *H.pylori* positive while 8 (53.3%) were *H. pylori* negative. Of the 120 asymptomatic children 23 (19%) were H.pylori positive with a higher incidence of about 52% by the age of 13.

Conclusion: Arising from this study, the rate of detection of H.pylori from gastric cancer cases is 46.7%, elsewhere in Nigeria it is as high as 60%. Infection rate of 19% in asymptomatic children is a pointer to possible lymphoproliferative disease in future. Research on the implication of Helicobacter in cancer is still very scanty in Nigeria despite the scourge as highlighted in this study.

WE4OP010

Demonstration of chromosomally mediated antibiotic resistance in bacterial isolates from seminal fluids of patients in Lagos, Nigeria

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Background: Plasmid mediated resistance in bacterial isolates had been extensively studied with paucity of studies on chromosomally mediated antibiotic resistance.

Objective : This study was designed to investigate the presence of chromosomally mediated resistance in bacterial isolates in Nigeria.

Methods: 102 Semen samples were collected from reported cases of Infertility at the Nigerian Institute of Medical Research between December 2009 and January 2011.The semen samples were cultured and processed bacteriologically. Plasmid extraction was carried out using modified method of Ehrenfeld and Clewell (1987).The plasmid DNA was separated. Curing of plasmids was done after which the sensitivity patterns of the isolates were repeated.

Results: 25/102(25.5%) yielded bacterial isolates. *Staphyloccocus aureus* 11/25(44%), *Staphyloccocus saphrophyticus* 6/25 (24%), *Eschericia coli* and *Klebsiella pnuemoniae* 4/25(16%). All strains of *Staphyloccocus aureus* and *Staphyloccocus saphrophyticus* were resistant to erythromycin and *Klebsiella pnuemoniae* was resistant to Amocixilin. All the 25 isolates harboured plasmids ranging from 9.42kb -23.23kb in molecular weight. Eleven strains of *Staphyloccocus aureus* were screened for plasmids of which 5/11(45.5%) harboured one plasmid each. Similarly, 3(50%) of the six *Staphyloccocus saphrophyticus* also harboured plasmids while 3(75%) of the four of both *Eschericia coli* and *Klebsiella pnuemoniae* harboured plasmids. All the isolates showed resistance to three or more antimicrobial agents. The susceptibility pattern of the isolates before and after curing of their plasmids was the same.

Conclusion: The resistance pattern before curing were not plasmid -borne but chromosomally mediated thus the indiscriminate use of antibiotics must be discouraged among sexually active men.

Wednesday 16th November 2011

Special Track 2

WES2OP01

Workshop on Insecticide Resistance

[12]**Awolola TS**, Coker AB**,** [1]Amajoh CN, ,.

[1]National Malaria Control Programme FMoH Abuja, [2]Nigerian Institute of Medical Research, Lagos.

Background: Malaria remains a major public health problem in sub-Saharan Africa. Although the introduction of artemisinin-based combination therapies and widespread distribution of long lasting insecticidal nets (LLINs) and selected indoor residual spray operation achieved major reductions in malaria transmission, mosquito resistance to public health insecticides remains a challenge.

Issues: Of the four classes of insecticides (organophosphate, pyrethroid, carbamate and organochlorine) approved by the WHO Pesticide Evaluation Scheme for malaria control, pyrethroids are the only insecticides used for net impregnation because of their fast action, strong excito-repellent effect and low mammalian toxicity. Unfortunately, pyrethroid resistance in malaria vectors has spread across Africa and now present in many countries where national malaria control programmes are scaling up LLINs distribution. Though evidence of malaria control operational failure due to insecticide resistance are limited, recent findings have shown a reduction of personal protection and overall insecticidal effect of LLINs in experimental huts.

Way forward: There is an urgent need for strategies to mitigate the impact of insecticide resistance because of the lack of alternative insecticides for malaria control.This workshop will provide information on the challenge of malaria vector control, highlight current status of insecticide resistance in the major malaria vectors in Nigeria and stress the NMCP plan for resistance management. It will also make appropriate recommendations and inaugurate the Nigerian Mosquito Control Association.

Wednesday 16th November 2011

Special Track 3

WES3OP01

Quality Management Essentials in Clinical Diagnostic Laboratories: Situation Analysis and Intervention

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Nigerian Institute of Medical Research, Lagos.

Background: Efficient and reliable laboratory services and networks are essential and fundamental components of effective, well functioning health systems. High quality laboratory testing is critical for patient care, prevention, disease surveillance and outbreak investigations. In Nigeria, laboratory infrastructure and personnel are adversely affected by a lack of resources and prioritization, hampering laboratory systems in efforts to fulfill their important role in the fight against infectious and chronic disease. As a result, the accessibility of laboratory testing and the quality of available services remains a serious challenge. It is therefore imperative that laboratory systems be strengthened in an effort toward health system strengthening. A major building block of achieving this, is the provision of a quality assessment programmes.
Quality assessment programmes (QAPS), are a means to verify that laboratories are proficient in their testing process. As good as the QAPS may be, they are not readily available to laboratories in developing countries due to several limitations with the high costs being a major factor. World Health Organization (WHO) recommended that developing countries should strive to develop their national external QAPS which will enable many laboratories in their respective countries to participate. Such QAPS should be coordinated by a national reference laboratory in country which has accreditation by WHO. It is in line with this recommendation and the urgent need to develop an external QAP in Nigeria that informed this project.

Objective: To establish a national quality assurance programme for HIV, malaria and mycobacterium tuberculosis in Nigeria in order to improve and strengthen the capacity of the laboratories in providing effective and qualitative services.

Findings: The report of the baseline assessment of public and private laboratories as obtained from a questionnaire based study will be presented. The experience on the provision of external quality assessment for HIV, TB and malaria will also be shared. The effect of mentoring and subsequent improvement in diagnosis will be discussed.

Wednesday 16th November 2011

Poster Exhibition 1

WE1PE01

Oviposition site selection by *Anopheles gambiae* and *Aedes aegypti* based on colour cues

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Objective: To determine the effect of colour cues on the oviposition pattern of *Anopheles gambiae* s.s. and *Aedes aegypti* mosquitoes

Methods: Fifty gravid female *Anopheles gambiae* s.s. and *Aedes aegypti* each were respectively selected from a culture maintained in the Biochemistry Division of the Nigerian Institute of Medical Research, Yaba, Lagos. The mosquitoes were exposed to nine distinctly coloured 250mls containers, placed inside 6 mosquito cages of 50 X 50 X 50cm^3 for oviposition. The containers were examined for eggs, larvae and pupae and these were counted every three days. The mosquitoes were fed with 10% glucose solution and the cultures were maintained at 30° C ± 2 and relative humidity of 80% ± 5.

Results: The container with red colouration recorded the highest oviposition rate for the two species of mosquitoes. The black colouration gave the least deposits for *A. egypti* while the Green colouration gave the least deposit for *A. gambiae.*

Conclusion: This study suggests that colour cues play a very important role in the selection of oviposition sites by the two test mosquito species. This information will be useful in the control and monitoring of mosquitoes' populations and may serve as a sustainable tool for the control of vector population

WE1PE02

Serum levels of TNF-α ,IL-1β and IL-12 In malaria patients in a semi-urban area of Lagos state .

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Background: Malaria resulting from *Plasmodium falciparum* remains a major cause of morbidity and mortalitity. Studies have shown that cytokines e.g IL-1β and TNF-α are involved in the pathogenesis of malaria causing anaemia and cerebral malaria while IL-12 plays protective role. It is often assumed that the protective and detrimental role of TNF-α during malaria depends on the quantity of TNF-α produced. Therefore, knowledge of these cytokine levels in malaria-infected patients is important in the evaluation of the outcome of the disease.

Objective: To assess the effects of Malaria parasite density ,age and sex on the levels of TNF-α,IL-1β and IL-12 in individuals with *P.falciparum* malaria.

Methods: Patients attending Ijede General hospital,Lagos state with axillary temperatures $\geq$37.5 or other clinical presentations suggestive of malaria and who consented to the study were screened for *Plasmodium falciparum* parasite by both rapid diagnostic Test method and microscopy.The study protocol was approved by NIMR IRB. Total Leukocyte count and Haemoglobin were measured using Closed Tube Automated Hematology Sysytem while TNF-α, IL -1β and IL-12 were measured by ELISA. Statistical analysis was done using SPSS Version 11.

Results: A total of 100 patients were recruited into the study. The mean values of IL-1β,TNF-α and IL-12 were similar in both males and females($P>0.005$). Mean parasite densities were higher (44,239.05$\pm$ 2985parasites/ul) for males than females(37,203.94 $\pm$4,751parasites/ul). TNF-α was significantly higher($P=0.001$) in <5yrs(662.5$\pm$12.5) than $\geq$5yrs (289.58$\pm$40.83). There was no significant difference in the Haemoglobin values and the cytokines in the febrile and non-febrile ($P>0.005$)patients.

Conclusion: Susceptibility of <5 yrs to severe malaria is associated with elevated TNF-α.

WE4PE03

Drug Combination Pattern in The Treatment of Febrile Illnesses Among Motor Vehicle Spare Parts Sellers in Ibadan, Southwest, Nigeria.

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Background: This study documented the pattern of combination-drugs commonly referred to as "Akapo" for the treatment of febrile illnesses among motor vehicle spare parts sellers in Ibadan and recommends the training of the drug hawkers on the appropriate drug combination as an effort to improve health care safety net.

Methods: A cross-sectional study using a pre-tested semi-structured questionnaire to collect pertinent data from 422 respondents enrolled by stratified sampling was conducted.

Result: The ages of the respondents ranged from 16 – 85years, with a mean of 49.7 $\pm$ 2.5 years. Respondents identified categories of febrile illnesses to include malaria (47.7%), yellow fever (28.8%) and typhoid (21.4%). Combination-drugs listed in one category included chloramphenicol capsules, felvin capsule, blood tonic, paracetamol tablets, novalgin tablets and priton tablet. Majority (78.0%) of respondents reported treating their malaria episodes in the last month with "Akapo" (93.6%). Seventy-eight percent obtained *Akapo* from patent medicine stores, 20.0% bought them from drug hawkers. Furthermore, 96.8% reported treatment was effective and advocated (87.1%) that '*Akapo*' should be promoted because of its reported efficacy.

Conclusion: This study shows that "*Akapo*" is the popular treatment for febrile illnesses among the study group. In order to assure safety, there is need to organize training of drug hawkers and patent medicine sellers to recognize proper treatment modalities for febrile illnesses.

WE4PE04

Effect of dihydroartemisinin plus mefloquine combination and dihydroartemisinin alone on electrocardiogram in healthy Nigerian volunteers.

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Objective: This study evaluated the Cardiotoxic effect of dihydroartemisinin (DHA) and the combination of dihydroartemisinin plus mefloquine (MQ) in healthy Nigerian volunteers.

Methods: Twenty healthy volunteers aged 22-29 years from the College of Medicine, University of Lagos, participated in the study. Participants were allotted to one of the two treatment groups, DHA alone and DHA plus MQ combinations.

Result: Heart rates were comparable after treatment in DHA and DHA plus MQ combination groups, no clinically relevant study drug related changes in heart rate were observed after either treatment. The mean ($\pm$SD) baseline of QTc interval was 395ms ($\pm$25.2), there was a decrease in the QTc interval 72 hours after drug administration. The mean ($\pm$SD) ratio of QT/QTc at baseline was 0.91ms (($\pm$0.03), this value increased to 0.96ms ($\pm$0.10) in the DHA plus MQ group. In the DHA group, the mean ($\pm$SD) measurement of QTc at baseline was 393ms ($\pm$20.5), there was an increase in Qtc to 397ms ($\pm$25.2) after drug administration. There was no change in the ratio of QT and QTc at baseline and after drug administration. It was 0.97ms ($\pm$0.1). There was no significant difference in pre-treatment and post-treatment of QTc values between the groups in DHA and DHA plus MQ combination.

Conclusion: There was no significant effect on the QTc interval when DHA was administered alone and in combination with MQ in our study.

WE4PE05

Transforming outpatient pharmacy services and training in tertiary hospitals of Nigeria

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Background and Objective: The study assessed the status of present outpatient pharmacy services in tertiary hospitals in the country with a view to recommending improvements.

Methods: A self-administered questionnaire was distributed to pharmacists currently working in over 20 tertiary hospitals across Nigeria mostly by Courier postage; and Fellowship Candidates of West African Postgraduate College of Pharmacists [WAPCP].EPI6 software was used for data analysis.

Results: A response rate of 80.4 % was achieved, having analyzed 201 questionnaires. The major job of pharmacists in outpatient pharmacy included dispensing, 97.51%; compounding, 42.79%; costing of medication, 89.05%; drug information and advice to patients, 74.63%; drug information and advice to physicians, 58.21%. Pharmacists in the study expressed dissatisfaction with the state of monitoring for drug effectiveness, 80.6%; investigation of treatment failures, 95.7%; and with investigation and reporting of adverse drug reactions, 76.7%. Over 80% of respondents felt underutilized; 70.9% denied job satisfaction, while 81.2% denied visibility and motivation in the job of hospital pharmacists. More than 95% of respondents agreed that there was need for major alterations in their present job to enhance patient care and training.

Conclusion: In conclusion, a tested conception, based on the matrix model of organizational design, and the current National Drug Policy for Nigeria [First Revision 2005] has been proposed as Standard Operating Guidelines for Specialist Pharmacy Clinics in all tertiary hospitals in the country. The critical feature in this conception includes appointment of experienced pharmacy experts of associated universities as consultants, to lead teamwork in patient service that will pay detailed attention to drug use, clinical training in pharmaceutical care and research, exactly in line with the objectives of tertiary hospitals in Nigeria.

Thursday 17th November 2011

Track 3

TH3OP01

Utilizing Reproductive health research for policy and national development

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Background: The emergent concern on improving/providing quality health has created a demand for research especially in the area of reproductive health. Attempting to address the multifaceted nature of reproductive health challenges in Nigeria necessitates the development of a comprehensive scheme integrating a wide range of factors. Despite the increasing research activities, gap in knowledge remains in addressing the reproductive health problems. Successful initiatives to address these problems rely on scientifically sound and culturally appropriate research that gathers information on sensitive topics and also expands the evidence base about the root causes and consequences of reproductive health problems.

Issues: This paper examines factors that are related to developing effective reproductive health policy for national development. It discusses the issues of culture, beliefs, gender and health as values in themselves, as well as other values like equity, that are common to reproductive health and health policy.

Conclusion: A better understanding of the interconnectivity between these factors and reproductive health is exigent; this will enhance the development of policies that can improve reproductive health and foster national development.

TH3OP02

Introduction of an innovation for the reduction of maternal mortality in Kano State, northern Nigeria: a case study of magnesium sulphate

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Background: Eclampsia is a common cause of maternal mortality worldwide; approximately 50,000 maternal deaths are recorded annually with a significant proportion of deaths occurring in developing countries as compared to developed countries. However, the uptake of evidence based obstetrics intervention such as the use of magnesium sulphate in the treatment of eclampsia has been very slow by governments and providers in most developing countries.

Objective: To describe the relatively easy-to-implement and rapid adoption of evidence based innovative intervention for the reduction of maternal mortality in Kano State.

Methods: We review the strategic steps in the introduction of evidence based intervention such as the use of magnesium sulphate for the treatment of eclampsia in a region with high maternal deaths due to eclampsia, low awareness and moderate resistance to its use, and non frequent supplies of the medication at secondary level of care (i.e 10 general hospitals in Kano state).

Results: Pre-intervention survey revealed low levels of awareness of the intervention among health providers; other observed barriers were the non availability of the medication in the health facilities and the absence of clinical protocols and/or guidelines on the use of the drugs. Within 10 months of implementing the magnesium sulphate program in Kano, 1045 patients were reached, 185 health providers trained on its use, eclampsia was responsible for 47.3% of maternal deaths, and 2.2% of mothers were noted to have experience the toxic effects of magnesium sulphate. The magnesium sulphate program recorded 42.4% reduction in maternal deaths attributable to eclampsia. In recognized of the effectiveness of the intervention in reducing maternal mortality; the state government expanded the availability of magnesium sulphate through its inclusion in the free-maternity care scheme in the state.

Conclusion: The generation of high quality research evidence on the effectiveness of introducing an innovative evidence based intervention to reduce maternal deaths in an area with high maternal mortality is crucial to informing health policy reform.

TH3OP03

Painless Drug Delivery Using Novel Transdermal Drug Delivery Device

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Background: A principal challenge to transdermal drug delivery has been the need to increase range and efficiency of drugs which can be delivered in this manner to high molecular hydrophilic drugs, while bypassing the impermeable skin layer in a minimally invasive manner.

Objective: The present research looks into the design of painless drug delivery devices and investigates the parameters which affect the rate of drug delivery with the aim to develop a quantitative framework to relate the design parameters to the drug delivery efficiency.

Methods: Mathematical models from theoretical analysis were developed to represent the diffusion and mechanical behaviour of the skin. The series of developed model where then implemented within an optimization framework. An algorithm for solving the developed framework is presented and incorporated into a developed VBA program. The theoretical models within the framework were validated against experimental results on porcine skin.

Results: Computer simulations using FDM and FEM numerical analysis are used to predict flux and concentration profile of drug in blood following administration. Simulation and experimental results confirm that the drug delivery efficiency of these devices is significantly dependent on the design parameters and the drug delivery rate can be controlled by varying these parameters.

Conclusion: The relevance of this research is that it provides a method for assessing the performance of these devices in vivo and shows how the developed framework can be used to vary the delivery rate according to patient requirement. Such studies are relevant in promoting this novel biotechnology towards clinical and commercial development.

TH3OP04

Harnessing the potentials of microbes as biological tools for heavy metal removal

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Background: Heavy metals always pose serious ecological risk when released into the environment due to their elemental non-degradable nature, regardless of their chemical form. Hence the need for the development of an efficient and low-cost effluent treatment and metal recuperation technologies for contaminated waste water. Heavy metal removal can be achieved by conventional treatment such as chemical precipitation; however each of this treatment has its limitations. Biosorption has however become a better alternative treatment. It is a general property of living and dead biomass to rapidly bind and abiotically concentrate inorganic or organic compound from even very diluted aqueous solutions. This study aims to remove heavy metals present in the wastewater of intercontinental distillers using indigenous microbes isolated from wastewater sample of the odoiya-alaro wastewater dumpsite.

Methods: Waste water samples were collected both at Intercontinental distillers and the Ogba-ikeja industrial wastewater dumpsite, Odoiyaalaro along the lagoon. Physicochemical and microbial analysis was done using Atomic Absorption Spectrophotometer and Standard plate technique respectively. Biomass for metal absorption and metal solution were transferred from their storage vessels into the reactor for mixing for the process of biosorption. Samples were later collected and metal determinations were carried out.

Results: *Pseudomonas sp* 220cfu/ml and *Bacillus sp* 270cfu/ml were isolated from the wastewater sample of Odoiyaalaro. Heavy metals present in the wastewater of intercontinental distillers are Pb (0.0059mg/l), Cu (0.026mg/l), Cd (0.351mg/l), Mn (0.840mg/l), Cr (0.186mg/l). After treatment with *Pseudomonas sp* : Pb (0.017mg/l), Cu (0.008mg/l), Cr (0.095mg/l), Cd (0.015mg/l), Mn (0.120mg/l). After treatment with *Bacillus sp* : Pb (0.100mg/l), Cu (0.000mg/l), Cr (0.086mg/l), Cd (0.020mg/l), Mn (0.080mg/l).

Conclusion: This study reviewed the importance of *Pseudomonas sp* and *Bacillus sp* in removing heavy metals from industrial wastewater before the effluent is discharged into the environment. A methods that is not hazardous and expensive as conventional methods.

TH3OP05

Comparative Study and Molecular Basis of Antibiotics Resistance Patterns of Bacteria Isolated from HIV Infected Individuals and the Clinic Environment

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Background. HIV infected individuals are prone to opportunistic bacterial infections. They are frequently exposed to various antibiotics giving rise to proliferation of antibiotic resistant microorganisms.

Objective. To compare antibiotic resistance patterns of bacteria isolated from HIV infected individuals and the clinic environment and determine the molecular basis for the resistance.

Methodology. Urine samples of consecutive and consenting HIV positive adults and children at HIV treatment centre NIMR over the study period were collected and subjected to culture and biochemical characterization using standard methods. Antibiotic resistance testing was done by Kirby-Bauer method. The *mecA* gene in *Staphylococcus* species was identified by polymerase chain reaction (PCR). Data analysis was performed using EPI info version 3.5.1.

Results. Sixty bacteria isolates were obtained from fifty-five samples collected. Thirty-one (51.7%) of these isolates were from thirty-nine urine samples, while twenty-five (41.7%) were from sixteen environmental samples. Urinary isolates were identified as *Staphylococcus aureus* (15), *Klebsiella pneumoniae* (10), *Enterococcus faecium* (2), *Streptococcus uberis* (2), *Escherichia coli* (2), while environmental isolates were *S. aureus* (13), *Pseudomonas aeruginosa* (3), *Bacillus spp.* (5), *K. pneumoniae* (2), *E. coli* (2). Most isolates of *S.aureus* had similar resistance patterns to ciprofloxacin, cotrimoxazole, chloramphenicol, cloxacillin, erythromycin, gentamicin, streptomycin and tetracycline. All methicillin resistant *S. aureus* (MRSA) possessed plasmids. Methicillin resistance however was observed within the chromosomal DNA of MRSA isolates from HIV infected individuals.

Conclusion. These results showed that resistant bacteria species are found in HIV infected individuals and the clinic environment and may play a role in transmission of antibiotic resistant species within the clinic setting.

TH3OP06

Community Participation in Indoor Residual Spraying for Malaria Control: Lagos Experience.

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Background: Malaria is the leading cause of morbidity and mortality in Lagos State. The transmission takes place all year round and more intense during the rainy season. The Lagos State government through the Local Government Malaria control Programmes introduced the community participatory Indoor residual Spraying programme in 2 selected communities.

Objective: To reduce the transmission period for malaria and thereby leading to reduced morbidity and mortality due to Malaria in population at risk in selected communities.

Methods: Two focal communities were selected. GIS Mappings, household numberings, and community sensitizations were carried out with the help of representatives of the Community development associations. Trainings were conducted for spraymen selected by the communities. Numbered households were sprayed with Deltamethrine.

Results: 7,880 households were spayed representing 98% coverage in selected communities. Community acceptance and participation was higher than initial IRS programme conducted by the State government. Fever prevalence reduced by an average of 20% in the outpatient records of sentinel health facilities in the selected communities. There was no record of death due to malaria in the last one year.

Conclusion: Community participatory effort has long been recognised as one of the pillar for successful public health interventions. For public health interventions to be sustainable there is an increased need to involve the community members during the planning, implementation and evaluation of intervention programmes.

TH3OP07

Parents perspective on HIV/AIDS education in schools in Lagos state: implication for in school intervention

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Background: Studies have shown that parents are not comfortable discussing sex related issues with their children. This may be a factor that increases the prevalence of HIV among adolescent as parents play a pivot role in the socialization process. The study was therefore carried out to examine parents' perception of HIV education in schools.

Methods: Purposive sampling technique was adopted in selecting 400 consented parents from four schools in Ikeja.100 parents from each school. The selection was based on the three major tribes in Nigeria and a group representing other tribes across Nigeria. lickert scale questionnaires were coined from the AIDS Related Social skills Questionnaire (ARSSQ) and the sexuality questionnaire by Cambridge Institute for Medicine, Psychology and Religion, which measures the attitude of parents and teenagers towards sex related issues. Linear Regression analysis was used to determine the contribution of parent's, religion, socio economic status, marital status, marriage type and educational level on their perception on HIV education

Results: The findings highlight the educational level of parents as the most potent contributor of Predictors (P= 0.000). Other significant factors include marriage type (P=0.007), Sex (P= 0.016), and marital status (P=0.007). Religion (P=0.0427) and tribe (P=0.633) we're not significant. Occupation (P=0.066) and Socio Economic Status (P=0.0658) were also not significant contributors

Conclusion: Parents' perception on HIV education in schools is greatly influenced by their level of Education amongst other factors. It was recommended that parents be educated on HIV/AIDS and be involved in the HIV education of their children through school activities.

TH3OP08

Indigo: A new approach to doctoral training in global health

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Background: Launched in 2009, the International Doctorate in Global Health (Indigo) is the first truly international doctoral programme in global health. The programme is offered by the Centre for Global Health at Trinity College, Dublin. Participating partners include Addis Ababa University (Ethiopia), University of Malawi, Ibadan University (Nigeria), Makerere University (Uganda), Columbia University (USA), Harvard Medical School (USA) and UK Cochrane Centre (UK).

Objective: The main focus of Indigo is on strengthening health systems in Africa, and three areas of research are being promoted: maximising human resources for health; managing communicable diseases; promoting equitable and inclusive access to health.

Methods: Indigo is a four-year flexible doctoral programme, which can be structured to meet individual students' needs. In the first year, students undertake taught modules provided by staff from Trinity College, Dublin, University of Oxford, Harvard University and Columbia University. Generally, Year One can include time in Dublin and New Work, depending on individual needs, as well as an internship at the Human Sciences Research Council, South Africa. The following three years will be spent researching and writing-up individual research projects in students' chosen fields, under the supervision of an international panel of experts.

Results and Conclusion: Indigo is designed to produce leaders in global health research, policy and practice. The programme is aimed at strengthening global health systems research especially in sub-Saharan Africa. Currently the Indigo programme has a total of twelve international and Irish registered students. These students hail from countries including: Canada, Congo DRC, Ethiopia, Finland, Malawi, Nigeria, Sudan, Uganda and the United States.

TH3OP09

Assessment of the levels of socio-economic impact of HIV on infected individuals in Lagos, Nigeria in the era of global access

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Background: The age group most susceptible to HIV infection is the most economically and socially active group. It is therefore expected to impact negatively on the socio-economic lives.

Objective: To examines the impact of HIV infection on the socio-economic status of individuals in Lagos State.

Methods: The study utilizing a cross-sectional research design, evaluated the impact of HIV infection on the socioeconomic lives of consecutive and consenting clients who had been on treatment for more than 5 years seen over a 12 month period. Information on their perceived stigma and discrimination were obtained. Data analysis was with SPSS for windows version 17.

Results: Among the clients studied, their average monthly income dropped from N34, 387.14 before HIV diagnosis to N29, 395.19 after the diagnosis (P= 0.00). Majority of the respondents (54.0%) reported that their monthly expenditure and their overall financial burden had increased since they were diagnosed HIV positive. Sixty four (64.0%) respondents reported that they were being stigmatized by members of their families and friends. On workplace perception, 58% of the respondents got dismissed from their jobs while 45% were forced to resign.

Conclusion: The findings from this study confirmed the negative impact of HIV on income and negative effects of stigma and discrimination on HIV positive individuals.

Thursday 17th November 2011

Track 4
TH4OP01

Prevalence and risk factors of anaemia in pregnant Nigerians infected with HIV

Kalejaiye OO, Ezechi OC, Odunukwe NN, Gab-Okafor CV, Ohwodo H, Oladele DA, Ezeobi PM, Gbajabiamila TA, Somefun EO, Adu RA, Oke B, Odubela O, Musa ZA, Ekama SO, Herbertson E, Amadi EN, Onwujekwe DI, David AN, Ujah IAO.

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Background: Anaemia is a prognostic factor of disease progression independent of CD4 count or viral load in HIV infected persons and is ultimately associated with shorter survival times. It is also a predictor of poor maternal and infant outcomes.

Objective: To determine the prevalence and correlates of anaemia in pregnant HIV positive Nigerians at enrollment in a large HIV treatment centre.

Methods: *A cohort analysis of enrollment data of pregnant HIV positive women seen at a large HIV treatment centre in Lagos Nigeria over 6 year period.*

Results: 2213 HIV positive pregnant women were seen during the period of which 941 (42.5 %) were found to be anaemic using WHO standards. The haemoglobin levels ranged from 6.1g/dl to 16.0g/dl with a mean of 10.2 ±1.2g/dl. Majority of the women had at least 1-2 previous deliveries (66.7%), were married (85.6%), belonged to the low socio economic class(61.1%) and had CD4 cell count above 200 cells/mm3(79.3%).
Multiparty (p <0.001), BMI less than 23 (P = 0.02), last interpregnancy interval of less than 2 years (P = 0.001), early pregnancy bleeding (P = 0.001), presence of OIs (P<0.001), Zidovudine containing HAART (P = 0.0005) and CD4 cell count less than 200 cells/mm3 (P = 0.008) were the risk factors found to be associated with anaemia .

Conclusion: Early detection of anaemia, identification of risk factors, prompt treatment and choosing the best drug combinations will ultimately improve the maternal and neonatal outcomes associated with anemia in HIV positive women.

TH4OP02

A study of glucose-6-phosphate dehydrogenase deficiency and correlation with adverse reaction to antimalarial drugs in Lagos state

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Background: Glucose-6-Phosphate dehydrogenase enzyme deficiency is an inherited condition in which the activity of red cell G6PD is markly diminished. The gene determining the structure of G6PD is carried on the X chromosomes and, therefore the defect is inherited in a sex-linked fashion, and is fully expressed in the effected males. On administration of certain drugs, it could precipitate hemolysis with resultant haemoglobulinuria erroneously presenting as the worsening of the disease state.

Objective: To relate G6PD deficiency to incidence of drug reaction and To determine the relationship between G6PD with sex.

Methods: The study was conducted in three private medical facility in Lagos and participants who consented to the study were grouped by sex: males (group A) and females (group B). 2ml venous blood collected in acid citrate dextrose (ACD) bottles was used for G6PD assay using Randox technique. Interviewer administered semi-structured questionnaires were used to capture information on reactions to medications.

Results: A total of 100 participants, comprising 44 males and 56 females were recruited into the study. The mean G6PD activity for group A was 11.7485 ± 5.05 U/gHb and 11.4403 ± 4.55 U/gHb for group B. The G6PD deficiency was similar in males 12 (27.3%) and in females 16(28.6%) (P=0.885). The 28 participants who were G6PD deficient claimed that sickness became worse when treated with certain drugs such as Chloroquine, Sulfadoxine-pyrimethamine,Artemether-Amodiaquine and Camoquine.

Conclusion: There was no association between G6PD activity and sex, thus a larger study is recommended. Administration of certain medications to G6PD deficient individuals should be done with caution such as the use of fansidar as intermittent preventive treatment of malaria in pregnancy

TH4OP03

Pattern and determinants of antiretroviral drug adherence among Pregnant Nigerians.

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Background: The need for a high level of adherence has remained a major hurdle to achieving maximal benefit of antiretroviral drugs in the prevention of mother to child transmission of HIV infection.

Objective: To determine the pattern and factors associated with optimal adherence to antiretroviral drugs during pregnancy.

Methods: A cross sectional study, using a semi-structured questionnaire among HIV positive pregnant women accessing care at a large PMTCT clinic in Lagos. Data management was with SPSS for windows version 17.Adherence levels and factors independently associated with optimal adherence were determined. The p value was based on 95% Confidence Intervals.

Results: 137 (80.6%) of the 170 women interviewed reported   adherence level of $= 95 \%$ using a 3 day recall. Majority of the women (86.5%) women had disclosed their HIV status to their partner (97.3%). The desire to ensure that the unborn child is protected from HIV infection was the greatest motivation (51.8%) for good drug adherence. Forgetfulness (57.6%), tight work schedule (39.4%) and fear of being identified as HIV positive (63.6%) were the common reasons for skipping or missing drugs.   HIV status disclosure (odd ratio: 6.1; CI: 2.8-11.6; P=0.000) and having a treatment support (odd ratio: 2.5; CI: 1.3-6.7; P=0.002) were factor associated with good adherence at multiple logistic regression.

Conclusion: This study shows that it possible to achieve good adherence during pregnancy in our setting and that disclosure of HIV status and having treatment support are associated with good adherence. Maternal desire to protect the child was the greatest motivator for adherence.

TH4OP04

Suboptimal adherence to antiretroviral therapy among Nigerians, a challenge to treatment scale up effort.

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Background: The scaling up of HIV care and treatment services in the recent years has been a great success. However sustainability of this programme is constrained by reported poor adherence to ARV drugs. Context specific adherence challenges are urgently needed for programme sustainability

Objective: To determine the rate, challenges and factors affecting adherence among clients attending a large HIV treatment centre in Lagos Nigeria.

Methods: A cross-sectional study at the HIV treatment centre, NIMR Lagos over a 5 month period using a pretest structured questionnaire. Level of adherence was assessed using one-week patient's recall and the data generated was analysed using Epi-info version 3.5.2 2008.

Results: A total of 355 respondents with the mean age of 37.2 ± 7.7 years participated in this study. Majority of the respondents were married (54.1%) males and females (58.0%). Only 54.6% of the respondents achieved 95% adherence, however the level of adherence obtained from this study was 73.8% which was sub-optimal for HIV management. While optimal adherence was associated with being married ($p < 0.05$), trust in the caregivers ($p=0.0006$), adherence counseling by commencement of treatment, use of medication reminder ($p=0.004$) and older age of 30 years and above ($p < 0.05$), suboptimal adherence was associated with stigma, high pill burden and feeling of ill health.

Conclusion: The high percentage of clients that reported suboptimal adherence in this study calls for a change in present counseling strategy. An individualized adherence strategy needs to be adopted using the factors identified in this study that influences adherence.

TH40P05

Challenges, Barriers and correlates of Condom use among HIV positive Nigeria

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Background: Positive prevention amongst people living with HIV aims to increase their self-esteem, confidence and their ability to protect their health and avoid transmitting the infection. Effective use of condoms has been shown to help in achieving this goal.

Objective: To determine the challenges, barriers and correlates of effective condom use among people living with HIV/AIDS.

Methods: Cross sectional questionnaire study among HIV positive adults attending a large HIV treatment centre in Lagos. Analysis was done with epi info version 3.5.1 (2008).

Results: The mean age of respondents was 35 years with the mean age at sex initiation of 19 years. Majority were women (66.7%), had at least secondary education(92.0%), married (69.1%), on ART(58.6%) and knew their partners HIV status(71.8%).While the rate of condom use at last sex act was 65.2%, only 46% use condom consistently. Factors associated with condom use during the last sex act includes being on ART for >3yrs(x^2=10.3;p=0.06), condom use before diagnosis of HIV(OR=1.6;CI=0.74-3.55),knowledge of partner's HIV status(OR=3.32;CI=1.38-7.98;P=0.005) and vaginal and oral sex practices(OR=3.6;CI=0.32-4.90 and OR=2.969;CI=0.33-26.37 respectively). However anal sex practice was not associated with condom use (OR=0.55). Partners' refusal to use condom (33.3%) were as a result of pregnancy intention (34.8%) and decreased sexual pleasure (34.8%).

Conclusion: The condom use rate of 65.2% among HIV positive persons who have been on counseling and treatment is rather low and thus calls for a review of the present positive prevention strategy.

TH4OP06

Changes in the lipid profile and liver enzyme levels of pregnant women with malaria parasitaemia in owerri.

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Background: Malaria infection is of public health interest especially in pregnancy and alternations in host hepatocyte physiology and morphology associated with malaria parasitaemia is well known.

Objective: To determine changes in lipid profile and liver enzyme levels in pregnant women with malaria parasitaemia.

Methods: A total of 40 pregnant women attending ANC clinic in Umuguma General Hospital Owerri were studied. Out of this number, 20 had malaria parasite by standard thick film/Giemsa method and served as the test group while the other 20 were free from the parasite, and served as the control group. The serum total cholesterol (TC), High density lipoprotein (HDL), Low density lipoprotein (LDL), Aspartate Aminotransferase (AST), Alanine Aminotransferase (ALT), and Alkaline phosphatase (ALP) levels were determined in the two groups by standard laboratory methods while the serum Triglyceride (TC) levels were obtained using the emperical equation of Friedewalt *et al*, 1972

Results: TC, TG, HDL, and LDL levels in the group with malaria parasitaemia showed significant increase ($P<0.05$) with mean values of 170.9±5.6 mg/dl, 106±6.0 mg/dl, 51.0±3.5 mg/dl and 91.0±6.4mg/dl respectively when compared with the levels in the non-malaria subjects with mean values of 116.0±6.7mg/dl, 83.3±5.0mg/dl 45.2±4.4mg/dl and 54.7±5.1mg/dl respectively. There was also a significant difference ($p<0.05$) in the mean values of the liver enzyme levels (AST, ALT and ALP) of the malaria subjects (18.6IU/L, 27.6±2.2U/L and 39.0±2.4 IU/L) when compared with non malaria control subjects (13.0±2.4IU/L, 16.6±3.5IU/L and 24.6±4.4IU/L respectively).

Conclusion: Malaria parasitaemia is found to aggravate the hyperlipidaemia associated with pregnancy.

TH4OP07

Isolation and Characterization of *Bacteriodes* species from wound samples obtained from Lagos University Teaching Hospital, Idi-Araba, Lagos

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Background: *Bacteroides* species are frequently associated with chronic wound infections.

Objective: The study sets to isolate and characterize *Bacteroides* species associated with wound infection and determine rapid and convenient method of identifying these anaerobes in Nigerian.

Methods*:* Thirty (30) samples from patients with chronic wound infections in Lagos University Teaching Hospital (LUTH) Idi-araba were cultured on selective *Bacteroides* Bile Esculin/Laked Kanamycin Vancomycin (BBE/LKV) agar and non selective Fastidious anaerobe agar (FAA). The isolates were further characterized by polymerase chain reaction (PCR) using species-specific primer.

Result*:* Of the 30 samples cultured, 14 (46.7%) isolates from 10 (71.4%) males and 4 (28.6%) female were obtained from FAA. Similar number of isolates was obtained on BBE/LKV agar. By PCR technique, 9 (64.3%) isolates were identified and confirmed as *B. fragilis,* and 5 (37.7%) as other species of *B. fragilis* group. Direct PCR on clinical specimen detected *B. fragilis* in 66.7% of samples. Antimicrobial susceptibility pattern of the 14 *Bacteroides* isolates to amoxicillin showed susceptible 0%, intermediate susceptibility 7% and resistance 93%.

Conclusion*:* Isolation of *B. fragilis* shows their involvement in chronic wound infections. BBE/LKV can be used as primary culture plates in patients with suspected anaerobic infections to minimize cost and reduce the time between primary isolation, culture and subsequent identification. PCR though expensive, was rapid and specific in identifying *B. fragilis* especially from clinical specimen and can be used where culture is not easily obtainable. The presence of resistant strains of *Bacteroides* might lead to treatment failure and transmission of antibiotic resistance genes.

TH4OP08

TB treatment default rate among patients attending a health facility in Lagos: indication for contact-tracing to reduce TB cases.

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Background: One infectious TB case can infect 10-15 other persons per annum. Hence, adequate strategy for the control of tuberculosis (TB) globally calls for a comprehensive approach including the use of contact tracers.

Objectives: The objective of this study was to assess the treatment success and default rates in patients obtaining health care services at the DOTs clinic and the laboratory services of Nigerian Institute of Medical Research Yaba, Lagos. This was with a view of contributing strategies that will reduce TB burden and enhance improved life expectancy.

Methods: 257 TB smear positive patients previously screened for HIV and whose informed consent had been obtained were assessed during and after anti TB treatment using AFB smear microscopy tests.

Results: The minimum age of the subjects was 12 years, maximum was 74 years with a range of 62 years. The mean age was 34 years. 135/257(52.5%) were females while 122/257(47.5%) were males. 134/257(52.1%) were HIV positive while 123/257(47.9%) were HIV Negative. Treatment course showed that 180/257(70.03%) were cured after 7months treatment. 3/257(0.01%) died and 58/257(22.6%) defaulted. 29/58 (50%) of the default cases were among the HIV negative while 29/58(50%) were from HIV positive patients (p=0.276) 4/257(1.6%) showed treatment failure. 84/180 (46.7%) cured of the TB were HIV negative while 96/180(53.3%) were HIV positive(p=0.002)

Conclusion: The study showed high default (22.6%) rate in TB treatment 50% of which occurred in HIV negative patients. The study suggested the need for contact-tracing to strengthen case detection, treatment coverage and consequently reduce TB cases.

TH4OP09

Comparative Quantitation and Performance of Malaria Parasites Detection Methods in Patients attending Antenatal Clinics in Ikorodu Local Government Area

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Background: The consequences of misdiagnosis are grave in pregnant women. It is therefore necessary to evaluate performance of diagnostic methods to effect universal coverage of malaria diagnosis.

Objective: The objective of this study is to compare performance of two rapid diagnostic tests (RDTs); parasite lactate dehydrogenase and (pLDH) based, parasite aldolase based, quantitative polymerase chain reaction(qPCR) and microscopy as gold standard in malaria detection.

Methods: One hundred consecutive and consented women, aged 14-45years, presenting with symptoms of malaria were screened using pLDH and aldolase RDT kits in two antenatal clinics in Ikorodu Local Government Area between January and May 2009. Extracted DNA from isolates was used in diagnostic PCR while QPCR was used to quantify parasites. Diagnostic performances were measured.

Results: Prevalence of malaria amongst febrile pregnant women was 19.47% with parasitemia ranging from 13parasite/μl and 141,000parasite/μl. Detection threshold for Optimal IT was 50parasite/μl but for qPCR it was 18parasite/μl. With microscopy as gold standard, pLDH and aldolase RDTs gave, sensitivities 64% and 73%, specificities 100% and 59%, false positive rate 0 and 0.41, false negative rate 0.36 and 0.27, positive predictive values 1 and 0.3, negative predictive value 0.92 and 0.9 respectively. Above parasitemia 100parasites/μl, sensitivity for pLDH was 83%. Composite sensitivity for PCR and microscopy were 96% and 88% respectively. Cohen's Kappa coefficient rated 74% agreement of pLDH with microscopy better than 21% of aldolase. Correlation of the malaria parasite quantization by microscopy and qPCR methods 0.52, was significant with a CI 0.058 – 0.80(P=0.026) at 95% and the Bland Altmans plot gave a bias of 0.525.

Conclusion: These RDTs have potentials in diagnosis of malaria in pregnancy but will have to be combined with microscopy. Q-PCR offers a reliable detection and quantitation method of parasites in pregnant women in Lagos state.

TH4OP10

Living in a relationship after HIV positive diagnosis: A qualitative exploratory study of the experiences of HIV positive Nigerian women

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Background: The disclosure of HIV status to sexual partners is important for HIV prevention and control. However in Nigeria women living diagnosed HIV positive are faced with challenges of how to handle the disclosure of the HIV status to their partners because of possible negative consequences.

Objective: To explore the experiences of Nigerian women in partner relationships after HIV positive diagnosis.

Methods: The study utilized qualitative research design. Information were gathered through individual face to face, audio tape-recorded unstructured interviews conducted with ten consenting HIV positive Nigerian women at the HIV treatment Centre,   Nigerian Institute of Medical Research, Yaba, Lagos.

Results: Analysis of the interviews using narrative structuring gave rise to eight main story lines namely: disregarding confidentiality principle, immediate disclosure, initial shock translated to supportive care, being maltreated and abused, deceiving through withholding disclosure, having affairs with other women, discovering partner's hidden status and being worried about partner's health. These findings were found to be linked with the stigma associated with HIV.

Conclusion: The main findings from this study were linked with stigma associated HIV. The negative treatments experienced by the women caused deep trauma to them. Most starlings was the disregard of confidentiality by the health care providers. Confidentiality should always be guaranteed while guiding the women towards HIV status disclosure to their partners.

Thursday 17th November 2011

Track 5

TH5OP01

Village-scale evaluation of PermaNet 3.0: an enhanced efficacy combination long-lasting insecticidal net against resistant populations of *Anopheles gambiae s.s*

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Background: Mosquito resistance to insecticide is a major challenge facing malaria control program. New tools for resistance management are needed.

Objective: The study was carried out to determine the efficacy of PermaNet® 3.0 (PN 3.0): a combination long-lasting insecticidal net (LLIN) against pyrethroid-resistant malaria vectors.

Methods: Three villages in Kainji, Niger States where the malaria vector: *Anopheles gambiae sensu stricto* was resistant to pyrethroids were selected for the study. Insecticide susceptibility tests and molecular plus biochemical assays were carried out at baseline, then each village was randomly assigned to receive PN 3.0, a standard LLIN (Olyset®) or untreated nets. Nets were distributed to cover all sleeping spaces and evaluated for insecticidal activity at quarterly intervals from July 2010 to April 2011. Households were visited each month to assess net usage and reported side effects. Entomological data including vector densities and physiological status were also collected on a monthly basis for 12 months.

Results: Insecticide susceptibility tests conducted on adult *Anopheles gambiae s.l.* mosquito confirmed pyrethroid (permethrin and deltamethrin) resistance. Molecular, synergist and biochemical analysis provided supporting evidence of the West African *kdr* mutation (*kdr-w*) as well as metabolic-based resistance mechanisms in the mosquito population. Bioassays repeated on domestically used PN 3.0 over 12 months showed persistent bioefficacy against both susceptible strain (100% mortality) and a laboratory reared resistant strain (100% mortality) of *An. gambiae s.s.* but bioefficacy of Olyset decreased over this period (<80% mortality). The overall results demonstrated that PN 3.0 was well accepted by nets users and resulted in 8-11% and 34-37% reductions in blood feeding relative to the Olyset and the untreated control respectively. *Anopheles gambiae s.s.* mortality was also greater for PN 3.0 (>65% mortality) compared to the Olyset nets (<45%) and the untreated control (< 3%).

Conclusion: This study provides persuasive evidence on the increased efficacy of PN 3.0 against malaria vectors with *kdr* plus metabolic-based pyrethroid resistance mechanisms under realistic LLIN use scenarios.

TH5OP02

Antimicrobial activity of essential oil of the seed of *Sesamum Radiatum* against some common pathogenic microorganisms

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Objectives: This study examines the antimicrobial activities of the essential oils of extracts of the leaf, seed and root of Sesamum radiatum on some selected species of pathogenic bacteria and fungi.

Methods: The air dried and pulverized seeds (100g) of Sesamum radiatum wash hydrodistilled for 3 hrs using a Clevenger type apparatus with n-Hexane (3ml) as the extractant . The essential oils obtained were tested against some selected pathogenic bacteria and fungi employing the agar- well diffusion methods. The MIC of essential of the essential oil of the plant was determined.

Results: The extract showed appreciable inhibitory effects on *Pseudomonas aeruginosa, Klebsiella pneumonia* and *staphylococcus auerus while Bacillus subtilis* was resistant to thew essential oils' extracts at all concentrations. *Candida albicans* and *Candida stellatoids* were found to be sensitive to essential oils of the plant at 100ul/ml, 300ul/ml and 500ul/ml concentration with minimal inhibitory concentration (MIC) of 100ul/ml. *Torulopsis glabrata*, however had MIC of 300uI/ml of the extract as there was appreciable growth of the fungus at 100ul/ml. The activities of the essential oils of *Sesamum radiatum* all concentration were compared with 25ug/ml cholaremphenicol and 0.25ul/ml ketoconazole as controls for bacteria and fungi respectively.

Conclusion: The observable clear zone of inhibition of the organisms makes *sesamum radiatum* promising alternative antimicrobial agent.

TH5OP03

Susceptibility Pattern of *Prevotella* and *Porphyromonas* species from patients with Odontogenic infections in Nigeria in Nigeria to amoxicillin

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Background: Pigmented anaerobes are associated with periodontal inflamation leading to destruction of periodontal ligament, supportive bones and subsequent tooth loss.

Objective: This study was design to characterize *Prevotella and Porphromonas species* from patients with odontogenic infections and evaluate their susceptibity pattern to amoxicillin a drug empirically administered in Nigerian dental clinics.

Methods: Twenty nine (29) patients with odontogenic infections attending Dental Clinic at Lagos University Teaching Hospital, Idi- Araba, were seen from April to August, 2011. The isolates was presumptively identified to genus level using growth on selective agar plates, Gram's reaction, and conventional biochemical analysis while their species were determined by PCR using primers specific for *Prevotella intermedia* and *Porphyromonas gingivalis species*. Antimicrobial susceptibility pattern of the isolates to amoxicillin was determined by agar dilution method using Wilkins-Chalgren anaerobe agar supplemented with hemin (5ug/ml) menadione (1ug/ml) and 5% horse blood.

Results: Clinical oral infections seen were; chronic periodontitis (15), acute necrotizing gingivitis (7), localized juvenile periodontitis (4), dental caries (3) and dental abscess (1). Among 29 samples cultured, 18 pigmented and 16 non pigmented species were obtained. PCR showed amplification for pigmented *P. intermedia* 8 (44.4%) and *P. gingivalis* 2 (11.1%). Antimicrobial susceptibility pattern of *Prevotella* and *Porphyromonas* species to amoxicillin showed susceptibility of 80% and 94% respectively.

Conclusion: Black pigmented anaerobes resistant to amoxicillin are involved in oral infections in our population. Correct identification of these species and their corresponding susceptibility pattern will be of public health importance in selecting antibiotics for therapy in order to achieve better treatment outcome in the management of oral infections.

TH5OP04

Comparative Performance of COBAS/Ampliprep Taqman and Amplicor HIV-1 Monitor Test in HIV/AIDS Diagnosis in Lagos, Nigeria.

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Background: The use of Real-Time PCR technology options are increasing by the day in resource limited settings because they are faster, have higher throughput, larger dynamic ranges and automate the cumbersome HIV viral load extraction steps. In 2010, UNAIDS ranked Nigeria as the second highest number of people living with HIV/AIDS (2.98 million people) in the world. Therefore, to efficiently manage this large population with the availability of ARTs, the need for COBAS/Ampliprep Taqman has to replace the manual COBAS Amplicor as a diagnostic tool for HIV -1 RNA become inevitable.

Objective: To compare the performance of COBAS Amplicor HIV-1 Monitor version 1.5 was compared with those of the COBAS/Ampliprep TaqMan HIV-1 version 2.0 in the routine clinical setting in determing HIV-1 RNA values.

Methods: In a cross sectional study, HIV-1 RNA values obtained with the COBAS Amplicor HIV-1 Monitor version 1.5 was compared with those of the COBAS/Ampliprep TaqMan HIV-1 version 2.0 in the routine clinical setting. Between May and August 2011, 184 plasma samples collected were analysed in parallel using both techniques. Data analysis was done using statgraphics Centurion XVI and Medcal version 12.0.

Result: Out of the 184 samples analysed with both assays, 11 failed using the Ampliprep. The mean values of the remaining 173 samples were 4.5 ± 0.07 $\log_{10}$ copies/ml for COBAS/Ampliprep and 4.4 ± 0.08 $\log_{10}$ copies/ml for COBAS Amplicor. The correlation coefficient for the two assays was 0.87 and the level of agreement using Bland-Altman plot was 94.0%.

Conclusion: These findings suggest that the results from the two methods were comparable, hence the COBAS/Ampliprep Taqman version 2.0 is recommended for high volume laboratories.

TH5OP05

Analysis of 2La inversion karyotype and Genetic differentiation in *Anopheles gambiae s.s.* in Lagos state Nigeria

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Background: The adaptive potential of *Anopheles gambiae s.s.* has long been attributed to the frequencies of alternate arrangement at the *La* region of the second chromosome with potential implication on insecticide resistance. Here we scrutinize the correlation between the rapid development of DDT resistance in Lagos state and this inversion karyotype.

Objective: This study was carried out to determine the 2La inversion frequencies in Lagos state in relation to the high level of DDT resistance reported.

Methods: Larval samples of *Anopheles* mosquitoes were collected from Ikorodu, Lekki, Ajah, Magodo, Badagry, and Yaba in Lagos state between the months of June, 2010 –January, 2011 using standard methods. Insecticide susceptibility tests using DDT insecticide impregnated test papers on 2-3 day old adults with standard WHO test kits. Morphological identification was conducted on the adult species followed by PCR identification and molecular cytotyping. 2La inversion polymorphism was examined through PCR and the results subjected to Wright F –statistics.

Results: The results of PCR identification confirmed that all specimen tested were *Anopheles gambiae s.s.* belonging to M molecular form. All samples collected were highly resistant to DDT (<34.5% mortality). 17.38% of the samples carry the 2La/2La inversion which was thought to be absent in the Southern Nigeria. 2La/2La+ inversion heterokaryotype frequencies were higher in all localities except for the samples collected from Badagry. Wrights F statistics however gave a value of 0.09 which confirms moderate ongoing selection on heterokaryotypes.

Conclusion: This study shows that there is ongoing selection among the M form of *Anopheles gambiae s.s.* around the 2La region in Lagos state without a direct link with DDT secticide resistance.

TH5OP06

Molecular characterization of the circulating strains of *Vibrio cholerae* during 2010 cholera outbreak in North Eastern Nigeria.

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Background: Cholera exists as a seasonal disease in Nigeria, occurring annually mostly during rainy season. In most of the affected areas in the country, cholera looks endemic since the cases occur all the year round but with different magnitudes. It is estimated that most cases of this infection are unreported due to poor surveillance systems. This study attempted to provide information on the circulating strains causing recurrent outbreaks in the three North Eastern states of Nigeria (Bauchi, Borno and Gombe).

Objective: To identify circulating strains of cholera with a view to establishing changing serotypes during outbreaks in Nigeria employing Molecular typing techniques.

Methods: Three samples were collected to inoculate the Cary Blair transport medium, Thiosulfate- Citrate- Bile- Sucrose (TCBS) agar and slide for direct Gram stain. Samples such as vomitus, water and sewage were collected in enrichment medium- alkaline peptone water pH 8.6. The isolated bacteria were characterized and identified while the *Vibrio cholerae* isolates were serotyped, biotyped and subjected to molecular characterization to determine the virulence factor in the strains using *ctx*A gene primers.

Results: Out of 201 samples screened, 96 were *V. cholera* 01 (48%), Ogawa serotype and classical biotype. Cholera toxin was amplified (using PCR) in 69 (72%) of the 01 isolates. Fifty four were *V. cholera* non 01.

Conclusion: This result showed that the circulating strains within the 3 study states were Ogawa serotype, classical biotype and carried the virulent gene *ctx*A.

TH5OP07

Evaluation of Oxyplate as a Rapid Method for Culturing Clinically Significant Anaerobic Bacteria in Nigeria

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Background: In Nigeria, anaerobes are frequently implicated in Noma (*Canrium oris)*, periodontitis, wound infections and bacteraemia.

Objective : This study aimed to identify a simple and fast method of anaerobic diagnosis due to its public health importance.

Methods: Oxyrase plate agar (Oxyplate) was prepared by the addition of 10% oxyrase enzyme to Wilkins-Chalgren agar and the growth compared with Fastidious anaerobe agar (FAA) in a gas pack generated anaerobiosis. These plates were inoculated in duplicates with 17 previously identified clinically important anaerobes which include *Bacteroides*, *Clostridium*, *Fusobacterium*, *Peptostreptococcus*, *Porphyromonas*, *Prevotella* species and 10 clinical samples from patients with diarrhea, otitis media, periodontitis, pelvic inflammatory diseases, wound and ocular infections. Both plates were incubated aerobically and anaerobically using Merck Anaerobic jar at 37°C for 24 h, 48 h and 72 h. Growth was scored by a numerical coding system that combines degree of growth and size of colony.

Results: At 24 h and 48 h, majority (94% and 96%) of previously identified species showed better growth on aerobically incubated Oxyplate than FAA (90% and 94%) and equal growth (100%) with both plates after 72 h. The clinical specimens showed similar growths on both plates after incubation for 72 hours.

Conclusion: This study, a first of its kind in Nigeria demonstrated that Oxyplate is rapid, simple, and cost effective in creating anaerobiosis and can support the growth of anaerobic bacteria within 24 to72 h. OxyPlates would be useful to clinical microbiology laboratories lacking resources for anaerobic culturing techniques in promoting accurate diagnosis and research activities.

TH5OP08

Characterisation of the insecticide resistance status of *Aedes aegypti* mosquitoes in a farm and non farm site of Lagos state.

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Background: Insecticide resistance remains a major challenge to vector control programmes relying on insecticide based interventions. This study was designed to provide information on the insecticide resistance status of *Aedes aegypti*; the major vector of Dengue and Yellow fever in Nigeria.

Methods. Larvae and pupae forms of *A. aegypti* mosquitoes were collected from - two farm sites at Ikorodu and Badagry and a non farm site at Ebute Meta, Lagos state. Adult emergence of 2-3 days old were exposed to WHO test papers impregnated with Deltamethrin (0.05%) and DDT (4%) insecticides. Knocked down time (KdT_{50} and KdT_{95}) and percentage mortality after 24 hrs post exposure were determined,. Resistance mechanisms were assessed by determining the mortality rates in mosquito populations pre-exposed to Piperonyl butoxide (PBO) synergist.

Results: Mortality rates (>98%) showed that *A. aegypti* populations from farm sites at Ikorodu and Badagry were susceptible to deltamethrin while mortality rate (95.8%)   in populations at Ebute metta indicate tolerance. Mortality rates in populations exposed to DDT in Ikorodu and Badagry farm sites were 83.75% and 81.44% indicating tolerance when compared to 65.5% mortality observed in Ebute Metta. The KdT_{50} and KdT_{95} in populations exposed to deltamethrin were 11.67 and 21.8 at Ikorodu; 10.8 and 18.3 in Badagry while it was 13.2 and 38.8 in Ebute Metta. Populations from Ebute metta pre-exposed to PBO synergist showed increased mortality rate (93%) to DDT.

Conclusion: Higher KdT values, lower mortality rates in *A. aegypti* populations in non- farm sites compared to farm site are indications of existing insecticide resistance. The increased mortality rate observed in populations pre- exposed to PBO synergist suggests the activity of metabolic enzymes and other factors promoting resistance outside agricultural use of insecticides. These results show that more attention must be paid to insecticide resistance management in the control of *A. aegypti* in a non-farm site.

TH5OP09

Use of Multi-plex PCR-DNA strip technology for evaluation of multi-drug resistance Tuberculosis from pulmonary TB patients in three local government areas of Osun state

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Background: This study was carried out to determine the drug susceptibility patterns of the isolates to the first line drugs and to evaluate the use of Line probe assay (Genotype MTB-DR plus) among

Methods: Pulmonary tuberculosis patients in the selected three local Government Areas (L.G.A's) of Osun State. Sputum samples were collected from patients at increased risk of multi-drug resistant (MDR) TB, Category 1 failure, return after default (RAD) and Category 2 attending the Directly Observed Treatment Short Course (DOTS) Centres in the three L.G.A's selected, Irewole, Ede North, and Iwo L.G.A's. Line probe assay (Genotype MTB-DR plus) was used for the Drug Susceptibility Testing (DST) ,designed to detect Rifampicin (*rpo*B) and high level Isoniazid (*kat* G) resistance mutations.

Results: Out of seventy-five (75) sputum samples collected 45(60%) were sputum smear and culture positive, twenty-seven (36%) were sputum smear and culture negative, while one (4%) was contaminated. Seventy-two (72%) of the patients were within the age range 21-50 years .Twenty-four (24) Mycobacteria Isolates out of the 45 culture positive samples were tested for resistance to anti-tubercular drugs. Thirteen (54.2%) were sensitive to both drugs Rifampicin and Isoniazid, Three (12.5%) were mono resistant to Isoniazid, six (25%) were non-tuberculosis Mycobacteria (NTM's), one(4.2%) was Multi-drug resistant (MDR), while one (4.2%) result was not conclusive due to the un clearity of the bands on the strip.

Conclusion: The technique was able to delineate between different types of resistance and showed specific band for MDR-TB. This assay has the potential to revolutionize MDR-TB diagnosis.

TH5OP10

Evidence of Propoxur resistance in urban populations of *Anopheles gambiae* s.s. mosquitoes resistant to DDT and Deltamethrin insecticides in Lagos, South - West, Nigeria.

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Background: In view of the widespread report of mosquito populations reported to be resistant to DDT and Permethrin insecticides, resistance monitoring becomes essential in ensuring the success of insecticide based vector control programmes.

Objective: To assess the susceptibility status of urban populations of *A. gambiae* to Propoxur: Carbamate being considered for vector control

Methods: Two –three days old adult female *Anopheles* mosquitoes reared from larval collections in 10 Local Government Areas of Lagos were exposed to test papers impregnated with DDT 4%, Deltamethrin 0.05% and Propoxur 0.1% insecticides. Members of the *A. gambiae complex*, the molecular forms, were identified by PCR assays. Prescence of *kdr* and *ace-1R* point mutations were determined by PCR.

Results: Propoxur resistance was found in 10 out of the 11 localities. There was a strong evidence of resistance to the 3 classes of insecticides in five urban localities. Mosquitoes exposed to Deltamethrin and Propoxur did not show any significant difference in mortality ($P > 0.05$) but was significantly higher ($P < 0.05$) in populations exposed to DDT. All mosquitoes tested were identified as *A. gambiae s.s* (M form). The *kdr-w* point mutation at allelic frequencies between 45% -77% was identified as one of the resistant mechanisms responsible for DDT and Pyrethroid resistance. *Ace-1R* point mutation was absent in the carbamate resistant population suggesting the possible involvement of metabolic resistance.

Conclusion: An evidence of propoxur resistance in *A. gambiae* populations already harbouring resistance to DDT and Permethrin is a clear indication that propoxur might not be a suitable alternative to DDT-Pyrethroid resistance. This calls for a radical implementation of insecticide resistance management strategies to combat the multiple resistance identified.

TH5OP11

Toll Like Receptor 4 (TLR4) Gene Polymorphisms and Crisis in Nigerian Sickle Cell Anaemia Patients

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Background: Sickle cell anaemia (SCA) due to point mutation (GAG-> GTG) at codon 6 of the ☐ -globin gene, remains a leading cause of morbidity and mortality in Nigeria with microbiosis playing a major role. TLR4 gene polymorphisms at codon 299 (Asp-Gly) and 399 (Thr-Ileu) have been associated with susceptibility to gram negative infections, sepsis and malaria in African populations.

Objective: This study investigated the relevance of TLR4 gene polymorphisms in the setting of SCA in Nigerian patients.

Methodology: We genotype TLR4 gene by allele-specific PCR at loci rs4986790 (A/G, D299G and rs4986791 C/T, T399I) and assess the diversity of the resulting alleles and haplotypes in a cohort of 57 SCA patents and 78 non-SCA controls. The evolution of alleles and haplotypes within and between the two loci examined were analyzed for risk factors, Hardy-Weinberg equilibrium (HWE) and Linkage disequilibrium using Pearson's chi-square statistics and Phase program.

Results: The observed TLR4 allelic and haplotype frequencies between SCA and the non-SCA controls were not significant (P<0.05). Furthermore, the various TLR4 genotypes seen had insignificant disparity in frequency in this environment, suggesting that they are currently in HWE.   Haplotype analysis further revealed that the mutant alleles at both loci were not linked, indicating a non-linkage disequilibrium phenomenon (D' < 0.2). Acquisition of both mutant alleles was also found to be age and sex independent but elicited association with risk of hypoalbuminaemia and sepsis in the SCA population.

Conclusion: TLR4 polymorphisms are not significantly related to SCA inheritance but may play an important role in infection-mediated crisis in Nigerian SCA patients.

Thursday 17ᵗʰ November 2011

Poster Exhibition 2

TH2PE01

Knowledge, attitude and practice of mothers in Ikorodu Local Government on Home management of Malaria

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Background: Malaria is the leading cause of morbidity in children under five years. Early recognition and prompt treatment of the illness has been recommended to reduce morbidity and mortality due to the disease. Hence, a good knowledge of the etiology, recognition of symptoms, prevention and treatment of the disease by mothers is advocated.

Objectives: The objective of the study is to determine the knowledge and perception of home management of Malaria by mothers of children under- five years and relate them to current malaria control interventions.

Methods: It is a descriptive cross sectional study of 340 mothers of children under- five years in three communities of Ikorodu Local Government Area of Lagos State, Nigeria.

Results: The major findings include gross misconception of the cause and mode of malaria transmission, fair knowledge of common symptoms of uncomplicated malaria and danger signs of severe malaria, low utilization of insecticide treated nets, high prevalence of treatment of malaria cases at home and poor knowledge of the use of Artemisinin based combination therapy (ACTs), the drug of choice for the treatment of uncomplicated malaria.

Conclusion: The study recommends a dynamic behavior change communication programme for mothers and caregivers. This should be organized to address the poor knowledge of mothers on adequate home treatment of malaria, promotion of oral medications and training of mothers at the community level on prompt recognition of malaria illness.

TH3PE02

HIV/AIDS Phenomenon: Examining the Interface between access to care and Perception of Stigma among Patients in Lagos, Nigeria.

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Background: Stigma causes discrimination which in turn leads to human right violation for the patients. It is anticipated that it may have a negative impact on patient's access to care and therapy.

Objective: To evaluate the effect of stigma on patients with regards to their access to therapy and survival.

Methods: A crossectional study design evaluated the effect of stigma on the access to therapy and survival among HIV positive persons who had been on treatment for more than 5 years over a six months period. Relevant information were obtained using questionnaire designed for the study. Completed questionnaires were collated and data generated were analyzed using the Statistical Package for Social Science (SPSS).

Results: One hundred and forty four clients were interviewed comprising of 72 males and females respectively. Majority of the respondents were between the ages 25 to 45 years. More than half of the respondents had initial fears about presenting at the clinic or attending HIV clinics where they may be recognized or knew a member of staff or other patients attending the clinic. 32% respondents reported that they were still being stigmatized by members of their families and friends. 22% indicated that they have been refused treatment by health personnel and some of those stated that they were admitted in segregated wards.

Conclusion: Findings from the study showed that stigma and discrimination had a negative impact on access to therapy. There is the need to increase education and campaign on dangers of stigma and discrimination.

TH4PE03

Study of intestinal helminths among in-patients in Lagos University Teaching Hospital, Idi-Araba, Lagos Nigeria.

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Background: Helminthes constitute some of the most common and important parasites of mankind, and they are regarded as important public health problem in tropical Africa,

Objective: To determine species composition and the occurrence of intestinal helminthes among the studied population.

Methods: The occurrence of Intestinal helminths among in-patients in Lagos University Teaching Hospital were studied for a period of six months (January – June, 2010). The technique of WHO 1987and 1994 were used for the examination of the samples.

Results: Out of the 340(100%) stool samples collected and examined 65(19.1%) were positive for helminthic infections, the study population includes, 16(24.6%) and 33 (50.8%) adults males and females respectively while 10(15.4%) and 6(9.2%) were   male and female children. The helminths encountered include   *Ascaris lumbricoides* 32(49.2%), *Trichuris trichiura* 17(26.2%), Hookworm 11(16.9%), *Strongyloides stercoralis* 5(7.7%). The overall infection rate were higher in female 39(60%) than in male 26(40%).

Conclusion: The result obtained herein discover high prevalence of these intestinal helminthes among the patients used for this study in the hospital, this calls for improvement on personal cleanliness, proper sanitation and consumption of portable water so as to be free from these avoidable   infections. Attempt to carry this study to other similar health institutions in Nigeria would be pursued.

TH4PE04

Pattern of Enteric Bacterial Pathogens on the Hands of Children 5-10 years old in Selected Communities in Nigeria.

__Idika N__, Adeiga A, Adesanmi A, Akintunde G, Enwuru C, Afocha E, Awoderu T, and Attat P.

Background : The global handwashing Day appointed by United Nations General Assembly in 2008 and celebrated every 15th day of October, is an initiative of the global public private partnership for handwashing with soap (PPPHW). By 2009, 780 countries across 6 continents celebrated Global Handwashing Day involving children, teachers, parents, doctors, nurses, religious leaders and celebrities. The campaign is to rouse awareness of handwashing with soap as key approach to disease prevention since simple behavioral changes such as handwashing with soap can reduce mortality and morbidity related to diarrhoeal diseases by 50% according to research findings.

Objective: Unilever, a member of the PPPWH coalition in collaboration with NIMR, carried out a survey to estimate the proportion of children (5-10years) in different parts of Nigeria who have faecal, bacteria on their hands.

Methods: Three states from the West, East and Northern parts of Nigeria were randomly selected, and with informed consent, hands of 400 children 5 to 10 years old from both rural and urban areas of Lagos, Maiduguri and Umuahia, were swabbed and processed for Enterobacteraciae using standard Microbiological methods and results obtained analysed with SPSS statistical package

Results: Hands of 49(12%) children (Lagos 5, Maiduguri 22, Umuahia 22) had faecal pathogens, 70% from urban areas. Most frequent were *Escherichia coli* 6%, En*terobacter sp*p 2.7% and *Salmonella paratyphi* 2,3%. About 81%, 55% and 27% were resistant to augmentin, cefuroxim and cefixime respectively.

Conclusion: A 12.5% carriaship of faecal bacteria by children is an is a serious issue that should be addressed.

TH4PE05

Reconstitution and measurement of the dose of ampicillin-cloxacillin dry syrup by mothers of babies attending paediatric clinic at Lagos University Teaching Hospital

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Background and Objective : This cross-sectional study investigated the knowledge and practice of reconstitution, storage, measurement of the dose and use of ampicillin-cloxacillin dry syrup by mothers for their babies.

Methods : One hundred and seven [107] mothers admitted into the study based on defined inclusion and exclusion criteria were provided ampicillin-cloxacillin dry syrup, and all other requirements for reconstitution including a suitable work area, at no cost. Their knowledge and skills were simultaneously assessed and corrected while they each reconstituted syrup and measured one dose the way they would normally do at home.

Results: Only about 50 % [54] of mothers gradually added sufficient water initially, to uniformly disperse powder in the bottle before further additions to reach the marked levels; and only 22[20.5%] knew the crucial importance of viewing the lower meniscus of water at eye level to obtaining correct volumes of liquids in glass bottles or vessels. When asked to administer reconstituted syrup to their babies, 24 [22.4%] did not shake the bottle immediately before measuring the dose volumes, which implied that their doses would be wrong.

Conclusion: Only a relatively small proportion of mothers in this study demonstrated a real capacity to properly reconstitute and correctly measure the dose volumes of ampicillin-cloxacillin dry syrup without assistance. Extensive education and assistance by paediatric pharmacists will be most useful in this regard. For the uneducated or inexperienced mothers, reconstitution in the hospital by pharmacists is recommended, while alternative formulations should be considered.

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