

## CONFERENCE ABSTRACTS

### WA001

#### Evaluation of TB/HIV co-infection among TB patients, Benue State, Nigeria

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**Background:** The 2014 global TB reported that an estimated 1.2 million (12%) of the 9.6 million people who developed TB worldwide were HIV-positive and the estimated TB/HIV co-infection rate was highest (32%) in countries in the African region. In Nigeria, the TB/HIV co-infection rate was approximately 23% thus the co-infection rate in Benue State placed 9<sup>th</sup> on the HIV prevalence table of Nigeria was expected to be around this value.

**Objective:** This study assessed the TB/HIV co-infection rate in Benue State.

**Method:** A Retrospective analysis of facility based service delivery data collected over three years from 2012 to 2014.

**Results:** The numbers of sputum smear positive TB clients are 2974, 2856, 2233 for year 2012, 2013 and 2014 respectively; of these numbers 861, 832, 670 were HIV positive. Which are represented as 32%, 31% and 31% respectively; with a male to female aggregate proportion for the three years as 49% to 51%.

**Conclusion:** The 31% TB/HIV Co infection rate of Benue state is within the African regional level.

**Key words:** TB/HIV, co infection, Benue

### WA002

#### Factors influencing adherence to oral antihypertensives among patients attending two District hospitals in Northern Volta, Ghana

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**Background:** Poor adherence to antihypertensive therapy is an obstacle to the management of hypertension. It also causes medical and psychological complications of the disease, reduces patients' quality of life, wastes health care resources and erodes public confidence in healthcare systems.

**Objective:** The study aimed at determining the factors influencing adherence to oral antihypertensives among patients attending two district hospitals in northern Volta, Ghana.

**Method:** A cross-sectional study was conducted on hypertensive patients (18 years and above) attending the outpatient department of two district hospitals in the northern Volta region; Krachi west district (n=187) and Hohoe municipal (n=183). Data collection was done between March-May 2016 using a structured questionnaire and Morisky 8-Item Measurement of Adherence Scale. Data was analyzed using Statistical Package for Social Sciences (version 16) and p value of  $\leq 0.05$  was regarded statistically significant.

**Results:** Of the 370 respondents who participated in this study, prevalence of adherence to antihypertensive medications was 89.2%, with more than half (53.3%) of respondents having uncontrolled blood pressure. The strongest predictors of adherence using the multiple regression analysis were; knowledge level of respondents on hypertension (B=0.135), respondents perception of severity of their condition (B=-0.124) and lastly the amount of alcohol consumed in a day by respondents (B=0.074).

**Conclusion:** Though high prevalence of adherence to antihypertensive medications was observed in this study, regular patient education and adherence counseling by pharmacists should be encouraged to improve patient's adherence levels to their antihypertensive medications.

**Keywords:** adherence, antihypertensives, and hypertension

### WA003

#### Impact and involvement of pharmacists at primary healthcare centres in Lagos State

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**Background:** Primary Health Centres (PHCs) are the first point of health care delivery. Previous studies have attributed constraint to effective PHC implementation in Nigeria to substandard drugs dispensed, insufficient and uneven distribution of personnel, irrational prescribing and dispensing leading to poor acceptance and utilization.

**Objective:** To explore the relevance of Pharmacists in PHCs as well as evaluate the perception and satisfaction of health workers about Pharmacist's role.

**Methods:** A descriptive, cross sectional study was carried out between January and June 2016. Three different questionnaires were administered: QI was used to assess barriers and facilitators of providing pharmaceutical care services by Pharmacists. QI, QII and LDCR were used to compare the services provided by Pharmacists to other drug handlers. QIII was designed to evaluate perception and satisfaction of health workers about services provided by Pharmacists. Data were analyzed using SPSS version 21.

**Results:** Majority of Pharmacists (n= 27) strongly agree that providing pharmaceutical care services enhances job satisfaction (85.2%), competence (88.9%), requires increase in number of Pharmacists (63%) and that the workload is much for Pharmacists at PHCs (48.1% strongly agree, 37% agree). There are statistically significant difference  $p < 0.05$  between Pharmacists and other drug handlers (n= 79) in services provided. PHC healthcare workers (n= 433) show positive perception and satisfaction about services rendered by pharmacists and strongly agree (46.4) and agree (33%) that there is need to increase the number of Pharmacists working in PHCs.

**Conclusion:** The study revealed that Pharmacists play distinctive role in health care delivery system at the grassroots. Extending the role of Pharmacists and provision of pharmaceutical care services requires increasing the number of Pharmacists.

**Key words:** Primary healthcare centres, Pharmacists.

#### WA004

### Assessment of self - medication practices in Akuse, eastern region - Ghana.

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**Background:** Consumers often obtain and consume medication without consulting or seeking advice from a qualified health care professional, either for diagnosis, prescription or treatment supervision. In Ghana, few studies have been conducted to evaluate unpinning factors associated with self-medication.

**Objective:** To assess the practice of self-medication among the people of Akuse in the Eastern Region of Ghana.

**Method:** Quantitative cross-sectional study was carried out in the rural area of Akuse between January to February 2016, using a questionnaire based survey to assess reasons for self-medication, class of medicines self-medicated, source of medicines self-medicated, knowledge of potential adverse reactions and outcome of practice.

**Results:** Of 363 participants enrolled, 361(99.4%) completely filled the questionnaires administered and females constituted 58.4%. Participants were mainly farmers (40.2%) and singles (34.6%). The highest level of education attained was primary (44.6%). Influence from others like family and friends, was the main reason for self-medication (32.7%). The classes of medicines often self-medicated were antibiotics (32.1%) and analgesics (21.0%). Licensed chemical sellers (32.5%) were their main source of the medicines. As high as 81.7% of respondents did not have any knowledge of the potential adverse reactions of the medicines they took. In 39.9% of the participants, their condition did not change after self-medicating, whilst 29.4% said their condition got worse.

**Conclusion:** Practice of self-medication was prevalent in the Akuse community. Findings of the study provide useful information for targeted education and sensitization of the residents in Akuse to assure responsible self-medication.

**Key Words:** Self-Medication, Prevalence, Akuse, Responsible self-medication.

#### WA005

### Evaluation of the knowledge and use of hypertension-inducing drugs and foods by young adults in Festac town, Lagos

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**Background:** Use of hypertension-inducing drugs and foods by young adults is fast becoming a major health concern worldwide due to its deleterious impact.

**Objectives:** The objectives were to assess the level of knowledge of young adults on the relationship between hypertension and certain drugs and foods, and to determine any association between gender and use of a hypertension-inducing food.

**Methods:** Pre-tested self-administered questionnaires were used to collect demographic data, family history, blood pressure, knowledge of relationship between hypertension and certain drugs and foods that are known risk factors for hypertension, and how often these were used. Data were collected from 221 young adults with ages ranging from 20 to 40 years that visited six community pharmacies in Festac Town from February to July 2014. Descriptive statistics were computed on sample characteristics and Chi Square test was used for inferential statistics ( $p < 0.05$ ).

**Results:** About 42% of the respondents knew that certain drugs could raise their blood pressure (BP) while 90% of them knew that certain foods or food additives could cause BP to rise, with 36.70% citing salt as an example of such food additives. The most frequently used hypertension-inducing drugs were nasal decongestants. More female respondents (30.7%) consumed instant noodles almost daily than the males (10.5%). There was a strong association between gender and consumption of instant noodles ( $p = 0.023$ ).

**Conclusion:** The level of knowledge of respondents on whether certain drugs, foods and drinks could induce hypertension was impressive possibly because of their high level of education.

**Keywords:** Knowledge, hypertension-inducing drugs and foods

#### WA006

#### Adherence level of adolescents with perinatal infected HIV at Komfo Anokye teaching hospital, Ghana

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**Background:** Increased accessibility to antiretroviral therapy has resulted in the decline of deaths among children with perinatal infected human immunodeficiency virus (HIV). Their adherence to Highly Active Anti-Retroviral Therapy (HAART) is vital for their survival and quality of life.

**Objective:** This study aimed at determining the level of adherence among adolescents with perinatal infected HIV (PIHIV) on HAART at the Komfo Anokye Teaching Hospital.

**Method:** This prospective study which involved 106 adolescents aged 10-20 years was conducted from September 2015 to January 2016. Morisky's 8-item medication adherence scale was adapted and used to determine the adherence level. Factors associated with adherence were also determined by interviewing the adolescents. EpiData 3.1 and Stata version 12 were used for data entry and analysis respectively.

**Results:** Overall, 54 (50.9%) of the PIHIV adolescents were females, 23 (21.7%) had both biological parents dead and over 60% of the caregivers were currently married. There was low adherence in 76.4% of the adolescents, and the commonest HAART regimen was zidovudine, lamivudine and efavirenz combination (55.7%). Forgetfulness ( $p=0.000$ ), school schedule ( $p=0.022$ ), fear of side-effects ( $p=0.041$ ) and inability to come for refill ( $p=0.012$ ) were the main factors associated with low adherence. However, low adherence was not significantly associated with the educational level of the caregiver or stigmatization.

**Conclusion:** HAART adherence among PIHIV adolescents is low and addressing modifiable factors associated with low adherence such as forgetfulness, school schedule, fear of side-effects and inability to come for medication refill are essential interventions for their long-term quality of life.

**Keywords:** Adherence, adolescent, HIV, HAART, perinatal

#### WA007

### Evaluation of *in vivo* wound healing properties of *Erythrophleum suaveolens* (Guill. & Perr.) Brenan leaf extracts and fractions

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**Background:** *Erythrophleum suaveolens* (Guill. & Perr.) Brenan is an important medicinal plant of various activities in Nigerian ethnomedicine. The traditional medicine application of the plant include its use as anti-inflammatory, analgesic, wound healing and gangrenous sores agents.

**Objective:** To evaluate the wound healing activity of *Erythrophleum suaveolens* leaf extracts and fractions.

**Methods:** Powdered plant leaf material was macerated using 96% ethanol. Phytochemical screening was performed on powdered leaf sample. Acute toxicity study was carried out on the crude extract using Lorke's method. Incision model was employed to screen the crude extract for wound healing activity while partitioned extract (*n*-hexane, chloroform and ethyl acetate fractions) were used for excision wound assay. In both assays Mupirocin ointment and normal saline were used as positive and negative controls, respectively.

**Results:** Phytochemical screening results showed that *Erythrophleum suaveolens* leaves possessed Tannins, Saponins, Alkaloids, Flavonoids, Steroids and Cardiac glycosides. Acute toxicity showed that the ethanol extract of *Erythrophleum suaveolens* leaf is safe by oral administration up to 5000 mg/kg body weight. The crude extract demonstrated significant wound healing activity in the incision wound model while *n*-hexane and ethyl acetate fractions demonstrated 100% activity at day 21 in the excision wound model.

**Conclusion:** *Erythrophleum suaveolens* leaf is shown to possess wound healing activity consistent with its ethnomedicinal use in wound healing in Nigeria.

**Keywords:** *Erythrophleum suaveolens*, incision, excision, wound healing, ethnomedicine.

#### WA008

### Prevalence and factors associated with cardiovascular complications in ambulatory type 2 diabetes mellitus patients in North East, Nigeria

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**Background:** Cardiovascular complications (CCs) are responsible for most deaths among diabetes patients. The prevalence of CCs and associated factors among diabetic patients in North East Nigeria is poorly described

**Objective:** This study aimed to describe the prevalence of CCs and associated factors among type 2 diabetic patients attending clinic at Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, North East Nigeria

**Methods:** A retrospective chart review of 459 non pregnant diabetic adults (> 18 years) was conducted between June, 2010 and June, 2013. Patients' case notes were systematically sampled and relevant information was collected using a data collection proforma.

**Results:** Participants had a median (IQR) age of 50 (40-57) years. A total of 384(83.6%) out of 459 had CCs. The most common CCs was peripheral arterial disease (49.2%), followed by stroke (26.1%), while coronary artery disease was 8.3%. The likelihood of having CCs was lower among workers by 55% compared to those without job [adjusted odds ratio(AOR) 0.44; 95% confidence interval(CI): 0.22 to 0.96], and patients who were on only antidiabetic medicines had 84% lower odds of CCs compared to patients on antihypertensive medications alone; AOR 0.16; 95% CI: 0.03 to 0.83.

**Conclusion:** Cardiovascular complications are common among the studied diabetic population. Unemployment and poor glycemic control are associated with CCs and should be addressed in interventions aimed at improving treatment outcomes in diabetic patients.

**Keywords:** Diabetes, cardiovascular complications, prevalence, comorbid conditions

#### WA009

#### Impurities profiling of ceftriaxone brands marketed in Ibadan, Southwest Nigeria

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**Background:** Several factors can affect the effectiveness of a drug therapy. One of such is the presence of impurities either from the active pharmaceutical ingredient, the excipients or introduced during processing or by inappropriate storage of formulated products.

**Objectives:** A comprehensive impurity profiling of the various brands available was carried out in order to provide a basis for specifying appropriate storage conditions.

**Methods:** The impurity profiling was carried out by developing a new liquid chromatographic method with UV detection. Factors that could affect the method were identified and optimized. The effects of elution mode, pH of buffer, flow rate of mobile phase, detection wavelength and type of organic modifier were evaluated. Validation studies comprising calibration curve, LOD and LOQ determination, accuracy and repeatability were carried out. The method was successfully applied to the determination of ceftriaxone content and impurities in 13 brands of ceftriaxone injections accessed.

**Results:** The developed method involved separation of ceftriaxone and its five major impurities in less than 15 mins using a gradient elution of  $\text{KH}_2\text{PO}_4$  (pH 7.5) and methanol at a flow rate of 1mL/min. Separation was carried out a C18 column with detection wavelength of 220 nm. Linearity was obtained within the range 7.8125 – 250  $\mu\text{g}/\text{mL}$  ( $r^2 = 0.9996$ ). The LOD and LOQ were obtained as 0.07456 and 0.2259 $\mu\text{g}/\text{mL}$  respectively. Relative errors from the intra- and inter-day assessment of accuracy and repeatability were generally less than 2%. All the 13 brands complied with the content specification of 92-108% of ceftriaxone. However, the impurities content in all the 13 brands were far higher than the 0.2% specified by ICH.

**Conclusion:** The comprehensive impurity profiling of ceftriaxone was accomplished. There is a need to adequately control storage conditions of the injection in order to limit the content of impurities.

**Keywords:** Ceftriaxone, Impurities profiling, liquid chromatography, storage conditions

## WA010

### Adherence to combined antiretroviral therapy and its association with immune status.

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**Background** Adherence to combined antiretroviral therapy (cART) is necessary to achieve the best immunological and virological response and lower the risk of drug resistance and failure amongst people living with human immunodeficiency virus (HIV)/acquired immune deficiency syndromes (AIDS).

**Objectives:** To evaluate the level and effect of adherence to combined antiretroviral therapy (cART) on the immune status of people living with HIV/AIDS and factors affecting adherence.

**Methods:** The cross-sectional study involved the use of structured questionnaire in 275 consented patients attending the human immunodeficiency virus (HIV) clinic at the University of Nigeria Teaching Hospital, Ituku-Ozalla. Adherence was measured using self-report and pill counting methods. Receiver Operating Characteristics (ROC) was used to ascertain which of the procedures was more reliable for assessing adherence. Data was analyzed using student t test and  $p < 0.05$  was regarded as significant at 95% confidence interval.

**Results:** The adherence rate in the subjects was low (62.5%). Non-adherence was significantly associated with lower CD4 counts ( $t = 3.180$ ,  $P = 0.002$ ). Major reasons for skipping medications were simply forgetfulness (10.2%), being too busy (9.5%), away from home (8.0%).

**Conclusion:** More than one method should be used to assess adherence. Poor adherence to combined antiretroviral therapy (cART) will generally lead to poor immunological status. Appropriate adherence intervention strategies aimed at eliminating the barriers to adherence and improving the immune status of the patients are highly recommended.

**Key words:** Adherence, HIV/AIDS, cART, Immune status

## WA011

### Prevalence of malaria among patients on combined antiretroviral therapy in a tertiary hospital

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**Background:** Malaria and HIV infection are currently considered two of the main global health problems together killing millions of people each year. Given the overlap of their geographic distribution and resultant rates of co-infection, interactions between the two diseases pose major public health problems.

**Objectives:** To determine the prevalence of malaria among HIV patients on combined antiretroviral therapy (cART) at the University of Nigeria Teaching Hospital Ituku-Ozalla.

**Method:** This was a cross sectional study between April and June 2016 involving total of 277 HIV positive patients that consented. Blood samples were taken for malaria parasite test and CD4 count. Data was analyzed using chi

square and student t test and  $p < 0.05$  was regarded as significant at 95% confidence interval.

**Results:** Malaria infection rate among the subjects was 13%. The prevalence of malaria among the different combined antiretroviral regimen were 9% (zidovudine/lamivudine/nevirapine), 13% (Tenofovir/Lamivudine/Efavirenz) and 28% (tenofovir/lamivudine plus atazanavir/ritonavir). The mean age and CD4 cell count between patients with and without malaria infection were not significantly different ( $t=0.126, p=0.900$ ;  $t=1.554, p=0.121$  respectively). Similarly, there was no significant association with gender and malaria infection ( $\chi^2=0.058, p=0.810$ ).

**Conclusion:** There is high prevalence of malaria among patients on combined antiretroviral therapy (cART) and neither age, CD4 cell count nor gender are significant predictors of malaria infection among them. Healthcare providers and patients need to be aware of available malaria prevention strategies.

**Key words:** Malaria, HIV/AIDS, cART

#### WA012

##### *In vitro* toxicity of crude aqueous extract of *Terminalia schimperiana* in male Wistar rat.

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**Background:** Previous study shows that the aqueous extract of *Terminalia schimperiana* root, (Idi: Yoruba) has androgenic potentials which may stimulate male sexual maturation and enhance normal testicular functions. However, information on its toxicological implications appears scanty to our knowledge.

**Objective:** To determine toxicity potential of the crude extract of *T. schimperiana* by measuring the levels of some serum biochemical indices.

**Methods:** The toxic potential of the crude aqueous extract was investigated by evaluating the chronic toxicity after oral administration of the extract(s) to rats at various doses (1000, 2000, 3000mg/kg) daily for 21 days and the rats were sacrificed under chloroform anesthesia after 1, 7 and 21 days of oral administration.

**Results:** The administration of the aqueous extract of *Terminalia schimperiana* root for 21 days resulted in significant ( $p < 0.05$ ) increase in PCV and RBC levels throughout the test period when compared with the control but were all within the normal test range. The differentials remained normal; the WBC level remained constant throughout the test period but increased after day 21 of the administration. Aspartate transaminase, alkaline phosphatase and acid phosphatase serum activities significantly ( $P < 0.05$ ) increased, while the serum activities of **alanine transaminase** and gamma glutamyl transferase significantly ( $P < 0.05$ ) reduced after 21 days of administration when compared with the control but they all fell within the normal test range. The extract produced (out of normal test range) significant ( $P < 0.05$ ) increase in the serum albumin and total bilirubin. The kidney function parameters level was normal for sodium and potassium while the levels of creatinine and urea increased when compared with the control but were within the normal test ranges.

**Conclusion:** The extract did not have any negative effect on the biomolecules investigated.

**Keywords:** Terminalia schimperiana, enzyme activities, hematological parameter, liver function, kidney function



#### WA013

##### **Ethno-medicinal use of *Moringa oleifera* plant in Ile-Ife**

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**Background:** There seems to be an increase in the use of *Moringa oleifera* (*Moringa*) plant for medicinal purpose in Ile-Ife.

**Objective:** To obtain information on the knowledge and medicinal uses of *Moringa oleifera* plant among residents in Ile-Ife.

**Method:** One hundred and fifty respondents were drawn by convenience sampling from Ile-Ife, an ancient town in Osun State, Nigeria. The research instrument consisted of a semi-structured questionnaire which solicited information and probable medicinal uses of moringa.

**Result:** Most of the respondents (77.6 %) first heard about moringa less than five years ago, mostly from friends (40.7%) and family members (33.3 %). Essentially, the respondents (76.7 %) had moringa cultivated around their premises and medicinal reasons (43.3 %) accounted for the major use, particularly in the treatment of malaria (28.7 %). Other health conditions treatable with moringa included stomach-related disorders, hypertension, cataract, low sperm count, cough, asthma and as nutritional supplement. The leaf (43.3 %) and seed (46 %) were the most frequently used parts in powdered dosage forms. Majority of the respondents (80.7 %) did not combine moringa with orthodox medicines when in use.

**Conclusion:** *Moringa*'s propagation and its uses are gaining ground in Ile-Ife. The plant is readily accessible and identifiable by the residents of this ancient town. Different morphological parts of the plants were prepared or formulated in various ways to treat myriads of ailments. Furthermore, majority of the respondents were not using moringa with other drugs.

**Keywords:** Ethno-medicinal use, *Moringa oleifera*,

#### WA014

##### **Pharmacovigilance systems in developing countries: an evaluative case study of Sierra Leone**

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**Background :** As yet, few low income countries like Sierra Leone benefit from having functional pharmacovigilance system to support safety monitoring activities, and often lack evidence-based information to help guide therapeutic decisions and promote rational use of medicines. This study seeks to assess the current status of pharmacovigilance in Sierra Leone, identify the strengths and weaknesses of the present system and propose interventions for improvement.

**Objectives :** The aim of this study was to evaluate the pharmacovigilance system in Sierra Leone

**Methods :** This was a descriptive cross-sectional study that was conducted in Sierra Leone. Fifteen respondents from

the national medicines regulatory authority, seven health facilities and six public health programs were interviewed. Study participants were selected based on a convenience sampling with two from the national medicines regulatory authority, seven from the health facilities and six from public health programs. Data was collected using the Indicator-Based Pharmacovigilance Assessment Tool, a metric instrument designed and validated by 'Management Sciences for Health', a United States of America non-profit organization. A scoring system was used for the quantification of assessment results.

**Result :** The study findings showed that the national medicine regulatory authority scored 79 percent and thus met the standard requirements of PV by scoring > 60 percent as demonstrated by the fact that it has an organizational structure and policy framework to collect safety data, collate them in a national database, and evaluate the risks and benefits by both passive and active approaches. The study also revealed that health facilities and public health programs scored < 60 percent with the exception of one health facility thus demonstrating need to fully operationalize PV at these levels in collaboration with the national medicine regulatory authority.

**Conclusion :** The study demonstrated that the national medicine regulatory authority had the basic pharmacovigilance structures and processes in place and showed encouraging endeavours with respect to the impact of pharmacovigilance in Sierra Leone. However, the study uncovered some gaps, mainly related to the lack of pharmacovigilance-specific legislation.

**Key words:** Pharmacovigilance systems, indicators, public health programs, health facilities.

#### WA015

### Evaluation of anti-cancer drug utilization among breast cancer patients in University of Nigeria Teaching Hospital, (UNTH) Enugu, Enugu State, Nigeria

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**Background:** In cancer management, drug utilization indices are great determinants of the outcome of therapy and rational use of drugs.

**Objective:** To evaluate the anti-cancer drug utilization in patients with breast cancer in UNTH Enugu within a period of 5 years by assessing the types, quantity, pattern and quality of anti-cancer drugs used, against the National Comprehensive Cancer Network (NCCN) guidelines.

**Methods:** A five-year(2011-2015) retrospective review of case notes of breast cancer patients, who presented at the Surgical Out- Patient , Oncology Unit and Radio Therapy Departments , was conducted in University of Nigeria Teaching Hospital using a structured data collection form.

**Results:** Of the 314 administered anti-cancer drugs, 27(8.6%) were hormonal therapies. The most administered chemotherapy regimen is adriamycin-cyclophosphamide regimen 107(30.9%), with a noticeable increase in the use of paclitaxel alone regimen over the given period. Despite a recorded 100% accurate dose calculations, 278 (88.5%) doses were administered at the appropriate frequency, whilst only 206(65.6%) of the appropriate cycles were completed. Generic prescriptions and injectable drugs recorded were 191(60.8%) and 275(87.57%) respectively.

**Conclusion:** Amongst the anticancer therapy options, Chemotherapy is the most prescribed (mostly Adramycin-cyclophosphamide). A good percentage of the patients did not complete their medication cycle or follow strictly the prescribed frequency for their anti-cancer therapy. Effort should be put in place to encourage rational drug use.

**Keywords:** drug utilization, anti-cancer, breast cancer, chemotherapy

## WA016

### Community preparedness towards Lassa fever outbreak in Delta state, Nigeria

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**Background:** Lassa fever is an acute viral haemorrhagic illness that occurs in West Africa. Transmission to humans occurs through ingestion or inhalation of urine or droppings of *Mastomys* rodents (reservoir). The whole community is however at risk of an outbreak from person-to-person transmission of the virus. Community preparedness of the populace to Lassa fever outbreak is therefore necessary to curtail the spread of such an infectious disease.

**Objectives :** The study aimed to assess the community preparedness towards Lassa fever outbreak in Delta State.

**Methods:** A cross-sectional study was carried out. One hundred and fifty respondents were selected by convenience in Ibusa and Okwe-Asaba communities in Delta state (where the Lassa fever outbreak occurred). An interviewer-administered questionnaire was used and analysis was done using SPSS<sup>®</sup> version 23.0.

**Results:** All the respondents were aware of Lassa virus and would seek orthodox management in the occurrence of symptoms. Majority (n= 93, 62%) were not aware of ribavirin as the treatment of Lassa fever. Only 56 respondents (37.3%) acknowledged Lassa fever to be highly infectious.

**Discussion:** Despite the increased awareness on Lassa fever among this community which may be due to increased campaigns on media, their knowledge (and preparedness) on the control of an outbreak was average. There is therefore a need to sustain and improve on existing health education campaign to achieve the desired attitudinal change in curtailing the spread of the virus in this region.

**Keywords:** Lassa fever, control, Delta State, outbreak

## WA017

### Physico-chemical and microbiological assessment of selected borehole water samples in Abakaliki, Ebonyi State, Nigeria

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**Background:** Groundwater is widely used for domestic or industrial purposes in many Nigerian communities.

**Objectives:** This study assessed the physicochemical and microbiological qualities of borehole water samples in Abakaliki, Ebonyi State, Nigeria.

**Methods:** A total of twenty-five water samples were collected from five different locations in Abakaliki and the temperature readings were taken at the site of collection. The physico-chemical parameters, microbiological and metal content of the water samples were determined using standard techniques. The pathogens isolated were subjected to antibiotics susceptibility testing.

**Results:** The results of the microbiological study revealed that the bacteria pathogens isolated included *E. coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Klebsiella* spp. Trace metal determination studies revealed that metals present in the borehole water samples were within maximum accepted limits for drinking water by the water quality standards of world health organization. The borehole water was of low turbidity, colourless, odourless, and with ambient temperature. Antibiotics susceptibility tests revealed that all the isolated bacteria from the water samples showed varying degrees of susceptibility and resistance to tested antimicrobiological agents.

**Conclusion:** The borehole water contained bacteria that are of public health importance and some trace metals detected in the water samples were found to be within the maximum accepted limits for drinking water with optimal physical and chemical properties. Periodic assessment of the physicochemical and microbiological properties of borehole water in this area is advocated to forestall possible outbreak of waterborne diseases.

**Keywords:** Borehole water, Coliforms, Bacterial resistance, Abakalik

### WA018

#### Evaluation of factors affecting adherence to prenatal iron/folate supplements among pregnant women in Nigeria

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**Background:** Reduced effectiveness of iron supplementation programs during pregnancy has been linked to low adherence to prenatal routine iron supplements. Low adherence to iron/folate supplements have been attributed to many factors.

**Objectives:** The study evaluated the level of adherence to routine iron/folate supplements among pregnant women and possible factors affecting this adherence.

**Methods:** A prospective longitudinal survey among pregnant women visiting the antenatal clinics at two health institutions in Nigeria. Data on socio-demographics, drugs' side effects, adherence, prenatal depression and severity of morning sickness were collected using questionnaires. Adherence, prenatal depression and severity of morning sickness were assessed using the 8-item Modified Morisky Adherence Scale (8-MMAS), Edinburgh Postnatal Depression Scale (EPDS) and Pregnancy-Unique Quantification of Emesis (PUQE), respectively. The association between various variables and levels of adherence were quantified using logistic regression.

**Results:** The following levels of adherence were observed: low adherence 100 (57.8%); moderate adherence 73 (42.2%) and high adherence 0 (-). Factors significantly affecting the risk of a woman having low adherence to iron/folate supplement included: age (OR = 0.92, 0.86 – 0.99), secondary school education (OR = 0.35, 0.18 – 0.69), being a student (OR = 2.82, 1.19 – 6.70), iron/folate side effect experience (OR = 3.79, 1.35 – 10.64) and moderate level of morning sickness (OR = 2.62, 1.24 – 5.54).

**Conclusion:** Adherence to antenatal iron/folate supplement was poor. Increasing age and secondary school education reduced risk while studentship, side effect experience and moderate morning sickness increased risk of low adherence to antenatal iron/folate supplements.

**Keywords:** Adherence, Factors, Iron/folate, Supplements, pregnant women

## WA019

### Medication prescribing errors in the in-patient unit of Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH): types, prevalence and clinical significance

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**Background:** Medication prescribing error is a global phenomenon, mostly affecting children and adolescence, with wide variation in the reported prevalence. However, there is paucity of published literature on this important aspect of medical practice from our setting especially in paediatric practice.

**Objectives:** This study was aimed at determining the prevalence, types, stages, medicines more associated with and severity of medication prescription errors at the paediatric in-patient unit of Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH) Bauchi.

**Method:** Three hundred and sixty (360) in-patient paediatric medication records between January 2013 and December 2014 were reviewed retrospectively. Medication prescription errors were sought for at every stage from admission to discharge, classified and their severity determined.

**Result:** A mean prescribing error rate of 31% was obtained, 3.3% were judged to be serious. The highest number of medication ordered was at the point of admission while the lowest was at the point of discharge. Omission error was the most common type of error found. The overall highest error rate was at the point of admission. Antimicrobials and parenteral fluid and electrolytes were the most common medicines associated with errors.

**Conclusion:** Prevalence of prescribing errors at the paediatric unit of ATBUTH Bauchi was found to be high, mostly at the point of admission and involving antimicrobials and intravenous fluid and electrolytes.

**Keywords:** Medication prescribing errors, paediatrics, children

## WA020

### Perception of community pharmacists about e-pharmacy in Osun State, Nigeria

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**Background :** The rapid growth of internet sale of medicines can no more be ignored, even in developing countries.

**Objectives :** The study was aimed at determining the level of awareness of e-pharmacy among community pharmacists in Osun State, Nigeria and examining the attitude of the community pharmacists to e-pharmacy.

**Methods :** The study was designed as a cross-sectional descriptive survey of 82 of the 104 community pharmacists in the state. Primary data were employed and collected with a set of semi-structured questionnaire randomly administered to the community pharmacists. The first section of the questionnaire was designed to elicit information on the level of awareness, employing statements with dichotomous 'yes/no' responses. The second section, on attitude, comprised statements on Likert-type scale of agreement, with five alternative responses of

'undecided', 'strongly disagree', 'disagree', 'agree' and 'strongly agree' given weighting scores of 0-4. Weighted averages approximating 1-2 and 3-4 were taken as negative and positive attitudes respectively. Overall attitude was computed as the mean of the weighted averages (MWA). Descriptive and inferential statistics were employed in analysing the collected data at 5% level of significance.

**Results :** The results showed that the respondents significantly possessed awareness (62.45%,  $t(81)=5.24$ ,  $p=0.05$ ) of, and positive attitude (MWA=3.09,  $t(81)=12.56$ ,  $p=0.05$ ) towards, e-pharmacy.

**Conclusion :** Community pharmacists in Osun state were aware of e-pharmacy and possessed positive attitude towards it. However, with the possibility of adoption of e-pharmacy technology in community pharmacy practice, regulatory agencies need to ensure availability of policy and legislation addressing its implementation while professional associations should organise training sessions to educate community pharmacists more about e-pharmacy.

**Keywords:** e-pharmacy, pharmacy practice regulation, community pharmacists, drug policy.

#### WA021

#### A Survey on the use of sexual enhancement products by men in jos, nigeria

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**Background:** Safety concerns have been raised to a wide range of sexual enhancement products sold almost everywhere in the country which are of potential health hazards to their users.

**Objectives:** To determine the availability and prevalence of use, reasons for use, source(s) of acquisition and factors associated with use of sexual enhancement products in Jos.

**Method:** A cross-sectional descriptive study was carried out involving males 15 years and above. Stratified and simple random sampling methods were adopted and a total of 384 respondents participated. Demographic data, characteristics regarding use of sexual enhancement products and sexual health data were collected. Statistical analysis was performed using Statistical Package for Social Science Version 23. Analysis was two-tailed and alpha ( $\alpha$ ) set at 0.05. Descriptive and inferential analyses were carried out using frequencies, proportions, chi-square and multivariable logistic regression analysis.

**Results:** Majority of the respondents were in the age range 25-34 years (49.7%), single (62.2%) and tertiary educated (61.7%). About fifty different sexual enhancement products were found in Jos. The prevalence of use was 30.6%. Delaying ejaculation was the most common reason for use (32.2%) followed by the desire to impress or satisfy a sexual partner. Drug vendors were the most popular (35.6%) sources of acquisition. Predictive factors for using these products were location, level of education and number of sexual partners.

**Conclusion:** This study indicated a high prevalence of use of sexual enhancement products in Jos and a high prevalence of erectile dysfunction among sexually active respondents.

**Keywords:** Sexual Enhancement, erectile dysfunction, Safety, prevalence

## WA022

### Knowledge, attitude and practice of mothers of under five towards childhood immunization in Ifako Ijaiye Local Govt., Lagos, Nigeria

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**Background:** Childhood immunization is a cost effective public health strategy. Vaccine preventable diseases are a major cause of the under-five mortality in Nigeria; and poor knowledge and attitude have been responsible for non-vaccination of children.

**Objectives:** This study was conducted to determine the knowledge, attitude and practice of mothers of under- five in Ifako - Ijaiye Local Government Area of Lagos State, Nigeria, on childhood immunization.

**Methods:** A descriptive cross sectional study using interviewer-administered questionnaire on 210 respondents, was carried out using stratified random sampling.

**Results:** The result indicated a high level of awareness and showed that 82.1% of the respondents knew immunization could prevent diseases/infection in children. However, some of the respondents (11.9%) felt immunization helped children to grow well. Most of them were aware of the various types of childhood immunization while 34.0% of them knew about Inactivated Polio virus vaccine. More than 50% of the women did not know the number of vaccine combined to produce pentavalent vaccine. A good proportion of children were fully immunized (61.9%), 35.7% were partially immunized and 2.4% were not immunized. The knowledge of the mothers was not significantly associated with the socio-demographic characteristic at 5% level of significance. However there was a strong ( $P<0.05$ ) relationship between religion and the practice of immunization among mothers.

**Conclusion:** Most of the respondents had good awareness and attitude towards childhood immunization; but their knowledge about vaccination was not adequate. There is a need therefore to empower mothers with knowledge of vaccine-preventable diseases

**Key words:** knowledge, Attitude, Practice, Childhood Immunization

## WA023

### Diabetes-related knowledge and self-care practices amongst diabetics at Abubakar Tafawa Balewa University Teaching Hospital, Bauchi

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**Background:** The incidence and prevalence of diabetes are increasing and have become worldwide public health problem. Ongoing patient self-care management, education and support are critical to preventing acute complication and reducing the risk of long-term complications.

**Objectives:** The aim of the study was to assess diabetes-related knowledge and self-care practices among diabetes patients at Abubakar Tafawa Balewa University Teaching Hospital Bauchi.

**Method:** A prospective descriptive cross-sectional study in which 400 respondents participated and their data were collected using systemic random sampling was carried out between January and March 2016 with the aid of a pretested structured questionnaire. Statistical analysis was performed using IBM Statistics for Windows, Version 20. Analyses were two-tailed and alpha ( $\alpha$ ) set at 0.05. Descriptive and inferential analyses were carried out using frequency, percentages, means and Chi-square.

**Results:** The study revealed that diabetes-related knowledge was moderate (67.5%) with a mean value of 2.7 and affected by their demographic characteristic ( $p < 0.05$ ). The study also revealed that self-care practices of the respondents were at low levels with mean value of 2.91. The antidiabetic drug compliance of respondents was at high levels with mean value of 4.73 but it is sometimes affected by cost and side effects of drugs.

**Conclusion:** Diabetes-related knowledge and self-care practices were found to be moderate and low respectively. However compliance to antidiabetic drugs was high.

Keywords: Diabetes, knowledge, self-care, anti-diabetes

#### WA024

### Evaluation of community pharmacists' competence in the management of childhood pneumonia in Oyo State, Nigeria

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**Background :** Pneumonia is a significant cause of death in children under five years in Nigeria.

**Objectives :** To evaluate the competence of Community Pharmacists in Oyo State in the management of childhood pneumonia and to carry out a training intervention for community pharmacists in the management of childhood pneumonia using current guidelines and strategies.

**Methods :** The study was a cross-sectional descriptive and quasi-experimental design. Data from the cross sectional study was collected using a structured questionnaire (pretest). There were a total number of 104 respondents. A training intervention was implemented and a post test measurement was carried out one month post intervention. The intervention was such that the participating community pharmacists were trained on the management of childhood pneumonia using standard guidelines. Chi square was used for categorical values while Z test was used to evaluate the impact of the training intervention.

**Results :** The results obtained showed that only 33.03% of the respondents demonstrated understanding in the management of childhood pneumonia. After the training intervention, the mean score for management of childhood pneumonia increased from 33.03% to 67.01% ( $p < 0.001$ ).

**Conclusion :** Relevant training modules for community pharmacists can improve their competence in the management of childhood pneumonia and other childhood illnesses prevalent in the communities where they practice.

**Key words:** Childhood pneumonia, Community Pharmacists, competence management, educational intervention, Oyo State



## WA025

### Knowledge, attitude and preparedness of pharmacists towards epidemic outbreaks

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**Background:** West Africa has faced the largest and most complex Ebola epidemic on record, with the virus taking its heaviest toll in Guinea, Liberia and Sierra Leone. While many studies have described knowledge, attitude and preparedness towards epidemics among healthcare workers, there are no published studies in Nigeria involving only pharmacists to the best of our knowledge.

**Objectives:** This study aimed at evaluating the knowledge, attitude and preparedness of pharmacists in Asaba towards epidemic outbreaks.

**Methods:** 50 Pharmacists in Asaba, were randomly selected and interviewed using pretested, well-structured questionnaires between December 2016 and January 2017. 13 questions each assessed knowledge and preparedness, 12 assessed attitude towards epidemic outbreaks. Knowledge, attitude and preparedness were evaluated by Chi square analysis, using SPSS 20. At 95% confidence interval, a 2-tailed, p- value less than 0.05 was considered significant.

**Results:** Of 50 questionnaires administered to respondents, 44 were returned, giving a response rate of 88%. One third (38.6%) were in age bracket (30-39) years, there were more males (59.1%) than females, majority (84.1%) were married, about half (40.9%) had Bachelor of Pharmacy as sole degree. Majority (68.2%) were practicing in hospitals, a quarter (27.3%) had been practicing for between 1-5 years. Knowledge of epidemics was very good (97.7%), attitude was positive (72.7%) preparedness was average (68.2%). Relationship between educational status and knowledge was statistically significant ( $p=0.011$ ,  $\alpha^2=21.488$ ).

**Conclusion:** Pharmacists in Asaba are knowledgeable about epidemics and possess positive attitude, however, preparedness was a problem. Pharmacists' participation in emergency preparedness training workshops is recommended.

**Key words;** Knowledge, attitude, preparedness, epidemics, outbreaks, pharmacists

## WA026

### Pharmaceutical care interventions: A case study of Connaught Hospital Freetown Sierra Leone

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**Background:** Pharmacy practice has shifted from a product centred approach to a patient centred approach. This study evaluated the need for and impacts that pharmaceutical care services at the ward level would have at Connaught Hospital ,Freetown

**Objective:** To identify medication related problems, and assess the need for relevance and impact of pharmaceutical care in this setting

**Methods:** Adapted Validated observational instruments for rating the value of Pharmacists clinical services and for assessing medication related problems and recommendations(interventions) were used to evaluate the severity of

error, value of pharmaceutical care service, identify medication related problems and recommend solutions to these problems

**Results:** Of the 150 cases 77 had errors that were relevant, and 53% (80 of 150) of the services rendered were important. Medication related problems identified and recommendations were all shown to have a potentially serious and positive impact on patient wellbeing and therapeutic outcomes as well as direct or indirect cost saving impact

**Conclusion:** There is a need for pharmaceutical care services and patient care will improve significantly when it is present

**Keywords:** Pharmaceutical Care, Medication Related Problems, severity of error, value of service

#### WA027

### Self-care behaviors and glycemic control among type 2 diabetic patients: a case study of CitiGlobe Ltd and Connaught Hospital, Freetown, Sierra Leone.

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**Background :** Diabetes Mellitus (DM) is one of the largest global health emergencies of the 21st century. Type 2 diabetes is claiming lives of Sierra Leoneans with its devastating complications mainly due to lack of awareness about the disease and adoption of healthy self-care behaviours. Diabetes care is a collaboration between professionals and patients. Professionals bring knowledge and expertise about diabetes and its treatment, and patients bring expertise on their lives and what will work for them.

**Objectives :** To assess patient knowledge about diabetes and its management , to determine factors that lead to non-adherence to self-care behaviors in type 2diabetic patients and to investigate the effects of diabetes education and self-care behaviors on glycemic control.

**Methods :** Study was carried out in Freetown (Western Area) at a tertiary health facility Connaught Hospital and CitiGlobe Pharmacy which runs a diabetes clinic. A structured designed questionnaire was administered to patients for collection of data. Collected data was then analyzed using differential and descriptive statistics using Statistical Package for Social Sciences software (SPSS). Linear regression analysis, Chi-square and Students T test was used to explore factors associated with diabetes knowledge among participants.

**Results :** Both univariable and multivariable linear regressions analyses revealed that Age, occupation and Education from doctor were significantly associated with patients' knowledge at both Conaught Hospital and CitiGlobe Pharmacy. Analysis also revealed there were statistically significant differences in the distribution of knowledge scores by age, level of education and occupation. It was also observed that patients hardly adhere to healthy life style modifications and self-blood monitoring of glucose.

**Conclusion :** Study clearly highlights the need for patients in both facilities (Conaught Hospital and CitiGlobe Pharmacy) to adhere to self-care behaviors in multiple domains, including food choices, physical activity and blood glucose monitoring. Hence, the management of diabetes needs more than just being knowledgeable about the disease, implementation of self-care behaviours plays a vital role in the successful management of diabetes.

**Keywords :** Diabetes Mellitus, Self-care, blood glucose monitoring, glycemic control.

## WA028

### Impact of tenofovir-based fixed-dose combination (FDC) antiretroviral regimen on clinical outcomes in federal teaching hospital, Ido Ekiti, Nigeria

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**Background:** Fixed-dose combinations represent simplification of antiretroviral treatment, facilitate adherence to chronic treatments, and contribute to a quantifiable improvement in patient quality of life.

**Objective:** This study aimed at determining the effectiveness of Tenofovir-based Fixed-Dose combinations of antiretrovirals in enhancing clinical treatment outcomes in patients infected with Human-Immunodeficiency Virus.

**Methods:** A retrospective study of 129 patients who were placed on Tenofovir-based Fixed-Dose combinations of antiretrovirals (TDF/3TC/EFV) at Federal Teaching Hospital, Ido-Ekiti during the period of 1<sup>st</sup> January 2014 to 31<sup>st</sup> December 2014 was done with the aid of the patient case notes. Data obtained were analysed using descriptive statistics. Cross-tabulations were done to explore statistical relationships between variables. The paired-samples T Test was used to determine the level of significance between mean weight, CD4 count and PCV at presentation and at of 1, 3, 6 and 12 months respectively. The level of statistical significance was set at  $p < 0.05$  (providing 95% confidence interval).

**Results:** The mean age of the respondents in this study was 40Kg (SD 11.24) with an average weight gain of 17Kg. There was a ninety percent reduction in the reported rate of opportunistic infections. Forty-four percent of respondents were down-staged to stage one with a reduction in peak incidence of adverse effects to a nadir of three percent. Eighty-nine percent of patients had good adherence. The mean CD4 increase noted at 6 months ( $t=6.386$ ,  $p=0.000$ ) and 12 months ( $t= 8.956$ ,  $p=0.000$ ) post-initiation of tenofovir-based regimen was statistically significant. At 3 months ( $t=3.121$ ,  $p=0.002$ ), 6 months ( $t=3.71$ ,  $p=0.000$ ) and 12 months ( $t=4.733$ ,  $p=0.000$ ), there was a statistically significant positive effect on BMI. At 1 month ( $t=2.825$ ,  $p=0.037$ ), 3 months ( $t=3.394$ ,  $p=0.012$ ) and 6 months ( $t=2.691$ ,  $p=0.036$ ) post-initiation of therapy, the PCV increase noted was statistically significant.

**Conclusion:** The administration of Tenofovir-based Fixed-Dose combination (FDC) antiretroviral regimen had a positive influence on clinical outcomes in terms of weight gain, correction of anaemia, increase in CD4 and good adherence; a progressive down-staging of the WHO clinical stage and reduction in reported opportunistic infections.

**Key words:** Tenofovir-based Fixed-Dose combination (FDC), effectiveness

## WA029

### Functionality of the drug revolving fund and its use in providing essential medicines in two tertiary hospitals in Abuja

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**Background:** Health services in Nigeria have been severely handicapped by an acute shortage of drugs needed for preventing and curing the diseases most commonly suffered by Nigerians. This problem has reached crisis proportion in recent year, even as the government has set up the Drug Revolving Fund (DRF) scheme to tackle this problem.

**Objectives:** To evaluate the Functionality of the DRF in providing quality and affordable medicines in two Tertiary Hospitals in Abuja and make appropriate recommendations.

**Method:** This is a cross sectional study carried out at National Hospital Abuja and University of Abuja Teaching Hospital. The variables of the workability of the DRF scheme were used to formulate suitable questions for this study. These questions compiled into questionnaire and interviews were used to find out from professionals involved with the activities of the DRF on how it has thieved since its inception in these hospitals.

**Results:** On availability of Drugs within the hospitals, even though drugs seems to be available in these institutions, more effort could be put in as it regards making essential drugs much more available through the DRF scheme. Respondents scored the DRF less than two out of five in its ability to manage the out of stock syndrome. As it regards the DRF account, more than forty three percent of the respondents' belief the DRF account has not been managed well. Majority of the respondents' belief that the running of the DRF and what it is set to achieve has not being impressive.

**Conclusion:** The DRF scheme even though seems functional, has not lived up to expectation of adequately providing affordable, safe and effective essential medicines to patients. Consequently, the DRF scheme can be strengthened through; establishment of a transparent, effective and efficient DRF committee controlled by Pharmacists, regular transparent procurement procedures, maintenance of a separate DRF account with the HOD Pharmacy as a signatory, ensuring strict accountability for the drugs provided in the system by supplying them on a "cash-and carry" basis, regular stock checks, auditing, decentralization of the scheme and provision of appropriate welfare package and training for the DRF personnel.

**Keywords:** drug revolving fund, essential medicines, affordable medicines

### WA030

#### Pattern of use and effects of codeine products and alcohol among youths in Keffi, Nigeria.

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**Background:** The potential for overuse and misuse of codeine-containing medications and alcohol is not only detrimental to a person's health but has broader consequences in terms of its cost and implications for a wider society.

**Objective:** This research was aimed at determining the pattern of use of codeine products and alcohol and its effects among the youths in Keffi Community, Nigeria.

**Method:** This research was a cross-sectional descriptive study conducted in May to July, 2016 among 172 youths between ages 18 and 40 that came to the Federal Medical Centre, Keffi and its environs. Questionnaires were used and interviews were conducted for about 15 of them that met the DSM-IV scale of codeine dependence. The health care professionals were also interviewed. Data analysis was done using SPSS package version 20, univariate and bivariate analysis and chi-square and statistics.

**Results:** Of the male participants, 61.8% of them abused codeine products, and the use of codeine product was significantly associated with male gender, post-secondary, being single, and student ( $P < 0.05$ ) unlike the participants' age ( $P > 0.05$ ). About 52.4% of them reported the use of alcohol and other substances was not significantly associated with participants' gender, age and educational background ( $P > 0.05$ ) unlike marital and employment status ( $P < 0.05$ ).

**Conclusions:** The Codeine use pattern amongst the youths in Keffi community was found to be associated with the male gender, post-secondary education, being single, and students while alcohol use pattern was found to be associated with being single, students and unemployment status.

**Keywords:** Codeine, misuse, overuse, risk

**WA031**

**Pharmacist prescribing: lessons from the Scottish experience**

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Non-medical prescribing, mainly by pharmacists and nurses, has developed differently across the world according to different healthcare systems. In the UK suitably qualified pharmacist independent prescribers are responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required, including prescribing. They treat patients in community pharmacies and primary and secondary care and in other settings such as care homes, prisons and substance misuse clinics.

Pharmacists in the UK may apply to train as prescribers two years post-registration. The prescribing course comprises 200 hours university-based education and a 90 hour period of learning in practice under the supervision of a Designated Medical Practitioner. Diagnosis by non-medical prescribers has been a contentious issue and there has been an increased emphasis on clinical assessment skills training as part of the course. Although 'independent', pharmacist prescribers work closely with other members of the multi-disciplinary team.

Scottish pharmacist prescribers' prescribing safety was assessed as comparable to that of final year medical students. More widely, a recent Cochrane review found that non-medical prescribers delivered cost effective and clinically effective care for acute and chronic disease management in primary and secondary care comparable to that of 'usual care' medical prescribers.

Pharmacists have been motivated to train and work as prescribers to enhance patient care and access to medicines and for personal satisfaction and professional advancement. They find the role very rewarding but an unknown number are not actively prescribing. Barriers have been identified as a lack of organisational support and a lack of a clear plan for implementing prescribing.

The Scottish Government is investing heavily in pharmacist prescribing and according to their Prescription for Excellence Vision and Action Plan by the mid-2020s all patients in Scotland will have access to a clinical pharmacist independent prescriber. In England and Wales too there is a drive to get pharmacists including independent prescribers working in general medical practices. These government-funded initiatives have led to increasing numbers of pharmacists training and practising as independent prescribers, improving patient care across all sectors and enhancing their professional practice. Robert Gordon University, Aberdeen, Scotland has been teaching cohorts of pharmacist prescribers since 2004. We currently teach 150 pharmacists each year and have published 25 peer-reviewed research papers examining all aspects of pharmacist prescribing.

### WA001P

#### Prevalence and management of septicaemia in HIV-infected patients

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**Background:** Opportunistic infections(OIs)/Septicaemia accounts for most of the ill health associated with HIV, providing evidence that active management of these greatly reduces the mortality and morbidity associated with Human Immunodeficiency Virus(HIV) infection.

**Objectives:** This is aimed at assessing the prevalence and management of OIs/ Septicaemia in HIV patients.

**Methods:** This retrospective study was conducted using the case files of 150 HIV Patients diagnosed of OIs/ Septicaemia admitted into the Medical wards of Federal Medical Centre, Makurdi, Benue state between Jan.2014 and Dec.2015. A data collection form was designed to collect demographic data and clinical data with clinical outcomes. Purposive sampling method was used, analysis done by SPSS version 21. Frequencies and percentages were used to estimate data obtained. Associations were tested by Chi square and Students t-test.  $p < 0.05$  was considered statistically significant.

**Results:** A total of 150 (5.18% of total admission) subjects were studied. Majority (60%) of them were female while others (40%) were male. Majority (85.3%) of the participants belonged to the 21-50yrs age group. Septicaemia (31.3%) was most commonly diagnosed. Also a higher proportion of 74.7% were treated according to the Standard treatment guideline. 54.7% of those who had septicaemia were successfully treated while the remaining 45.3% died.

**Conclusion:** This study shows that the most prevalent disease condition in the studied subjects was Septicaemia and most of the affected HIV-infected patients were successfully managed.

**Keywords:** Human immunodeficiency virus, septicaemia, opportunistic infections.

### WA002P

#### Provider initiated HIV counselling and testing services for presumptive TB cases at directly observed treatment (DOT) facilities, Benue state, Nigeria.

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**Background:** With a population of about 5 million, Benue state is one of the states in Nigeria with a high burden of HIV and Tuberculosis. In 2012, HIV prevalence in the State ranged between 8.5% and 12.7%. Based on WHO recommendation to offer either voluntary or provider initiated counseling and testing services to TB clients, the State TB program initiated the provision of provider initiated HIV Testing Services to all presumptive clients at its DOTS facilities.

**Objective:** This study assessed the yield of this initiative over time.

**Method :** A Retrospective analysis of facility based service delivery data collected over three years from 2012 to 2014.

**Results:** A total number of 47230 presumptive TB cases were offered HCT services from DOTs stand-alone and TB

point of service health facilities. From 2012 to 2014 there was a progressive increase in the proportion of presumptive TB cases subjected to HIV counseling and testing; 2012(79%), 2013(91%) and 2014(97%) respectively. The proportion of total number of adults [15years+] tested who received HCT services versus that of men was 51% to women 49%.

**Conclusion:** HCT services were offered in DOTs clinics to over 90% of the presumptive clients which is above the global TB reported level of 79% for African region.

**Key words:** HTS, TB/HIV, DOTs facilities, LGA, Benue

#### WA003P

### The Contribution of public-private mix scheme in childhood TB/HIV surveillance, Benue State, North central Nigeria

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**Background:** In Nigeria, Benue State has the fourth largest burden of tuberculosis (TB). Since 2001, Benue State Tuberculosis control program has sustained engagement of private health care providers in a PPM for TB surveillance and treatment.

**Objective:** This study assessed the contribution of this partnership to childhood TB/HIV surveillance in the State.

**Methods:** We analyzed secondary data from all records of presumptive TB cases notified by 39 PPM facilities in the State. Data entries covering 3 years' period were reviewed. Univariate and bivariate analysis were performed to generate frequencies, proportions, and odds ratios.

**Results:** 15735 presumptive TB cases identified, 1503 (9.6%) were children and 14232(90.4%) were adults. The presumptive cases yielded 167(3.6%) childhood TB cases and 4453(96.4) adult TB cases. Of the 1501 child presumptive TB cases tested for HIV 540(36%) were positive whereas of the 7279 presumptive cases tested 2839(39.0%) were HIV positive.

For the childhood TB cases Male: Female ratio was 1:1 and 80% of the ages affected were 5-14 years. Sputum bacteriological positivity in children was 27(16.2%).The PPM facilities were 4 times more skilful in diagnosing TB in adults from the presumptive pool compared to diagnosis of TB in children[OR=3.6, 96%CI(3.09-4.30)]. The presumptive TB/HIV infection rate was higher for adult compared to children.

**Conclusion:** Childhood presumptive TB case detection and finding of HIV among this vulnerable population is still sub-optimal. PPM-scheme should be supported and expanded to increase surveillance and notification rate of pediatric TB/HIV co-infection.

**Keywords:** Tuberculosis, Public-Private Mix, Surveillance, pediatric TB/HIV

#### WA004P

## Drug utilization review of ciprofloxacin at the Ghana police hospital

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**Background:** Quinolones are among the most frequently prescribed and used antibiotics globally. In Ghana, a recent nation-wide antimicrobial susceptibility surveillance revealed greater than 50% resistance to ciprofloxacin. In spite of the relevance of drug use evaluation studies in improving rational prescribing of drugs, no such study has been published on ciprofloxacin use in Ghana to the best of our knowledge.

**Objective:** This study aimed at evaluating prescribed ciprofloxacin at the Ghana Police Hospital.

**Methods:** A cross-sectional study was done to evaluate use of prescribed ciprofloxacin from 297 patients medication cards at the Ghana Police Hospital Pharmacy Department, between January and May 2016 with the aid the Pharmacy unit's data collection form. Data obtained were assessed against a modified WHO drug use criteria with reference to the Standard Treatment Guidelines (STGs) of Ghana, and ciprofloxacin package insert (Bayer).

**Results:** Of the 297 ciprofloxacin prescriptions assessed, outpatient cases constituted 93.9% and all cards had diagnosis of diseases stated (100%). Appropriateness of diagnosis per the STGs and Bayer insert was 89.2% and 85.6% respectively, and that for dose and daily frequency were 100%. Appropriateness of duration of regimen per STGs and Bayer was 14.1% and 35.7% respectively, with most duration either more or lesser than recommended. Possible potential drug interactions were 8.4%. , There was no contraindication for ciprofloxacin in all the cases assessed.

**Conclusion:** All drug use indicators assessed were relatively good, however, non-adherence to recommended duration in STGs and Bayer drug insert was a major problem. Educational, managerial and regulatory interventions to improve its rational prescribing and minimize resistance are recommended.

**Key words:** Drug utilization, ciprofloxacin, Ghana, rational prescription

### WA005P

#### Perception of healthcare professionals on the collaborative clinical role of pharmacists in a tertiary health hospital in southern Nigeria

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**Background:** Health professionals work in a unique environment delivering quality care in a dynamic and complex process. Traditional practice where physicians prescribe and pharmacists dispense drugs, frequently resulted in avoidable drug-related problems that contributed to poor patient outcomes and increased medical costs. Pharmacists as medication therapy experts on the healthcare team can help resolve complex patient treatment issues.

**Objective:** To determine and document the perception of health care professionals on the collaborative clinical roles of pharmacists prior to and after an educational intervention.

**Method:** This was a cross sectional prospective survey, using the same questionnaires administered to 235



healthcare professional before and after an intervention lecture. Data were collected at the Delta State University Teaching Hospital, Delta State. SPSS software (Statistical Package for Social Sciences) version 22 and Graph Pad InStat was employed for descriptive and inferential statistics. A value of  $p < 0.05$  was considered statistically significant.

**Result:** Sixty eight percent of respondents were female and 82.3% were non-medical doctors. While 73.5% of respondents were younger than 40 years and 68.2% had less than 10years work experience, overall there was a positive perception on confidence in the pharmacist and the clinical role of the pharmacist with a mean score of  $6.35 \pm 1.186$  pre intervention. This significantly improved to  $6.59 \pm 0.942$ ,  $p = 0.0127$ .

**Conclusion:** Healthcare professionals have positive perception of the collaborative clinical role of the pharmacist and this was significantly improved post intervention along age, sex and professional lines.

**Key words:** Pharmacists, Healthcare professionals, clinical pharmacy, pharmaceutical care, medication therapy management

#### WA006P

### Adoption of telepharmacy among community pharmacists in Osun State of Nigeria

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#### ABSTRACT

**Background:** Telepharmacy is the use of information and communication technologies to provide comprehensive pharmacy services when distance separates the participants. The technology is growing globally and offers opportunity for pharmacist-provided services to clients in remote locations especially in resource-limited environments as currently prevalent in developing countries.

**Objectives :** The study examined attitude to telepharmacy, and assessed its level of adoption, among community pharmacists in Osun State.

**Methods :** The study was a cross sectional descriptive survey of 80 among the 100 community pharmacists in Osun State. Primary data were employed, and obtained, using a set of semi-structured questionnaire. The two-section instrument was designed with the first section having Likert-type items on agreement scale having five alternative responses with weighing scores of 0-4. The second section sought information on telepharmacy adoption level and was measured with items having seven alternative responses with weighing scores of 0-6, representing seven progressive stages namely lack of awareness, awareness, persuasion, decision, trial, implementation and confirmation, in adoption process. Collected data were analysed using descriptive and inferential statistics at 5% level of significance.

**Results :** The results showed that the community pharmacists in Osun State possessed positive (MWA=3.00) attitude to telepharmacy with low (MWA≈2) level of adoption.

**Conclusion :** The community pharmacists in Osun State have positive attitude to telepharmacy, the level of its adoption was far from actualisation. However, adoption of telepharmacy can be achieved through sensitization of community pharmacists, to the benefits of the technology, by professional associations.

**Keywords:** Telepharmacy, adoption, attitude, information and communication technology, community pharmacists.

#### WA007P

## Adverse Drug Reactions in Multidrug Resistant Tuberculosis patients at mainland hospital, Yaba, Lagos

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**Background:** The appearance of Mycobacterium tuberculosis strains with resistance to the most active existing drugs has made multidrug resistant tuberculosis a significant menace to global public health.

**Objectives:** The objectives of the study were to investigate the prevalence of adverse drug reactions among multidrug resistant tuberculosis patients and to evaluate the influence of co-morbidities associated with multidrug resistant tuberculosis in the occurrence of adverse drug reactions at Mainland Hospital Yaba, Lagos.

**Methods:** A retrospective study in which the case notes of multidrug resistant tuberculosis patients enrolled in the hospital were reviewed was carried out between April 2012 and August 2014. A structured data collection template was used to extract and record information on the patients and the data gathered were analysed using Statistical Package for Social Sciences (version 20.0).

**Result:** The most common adverse drug reactions recorded were gastrointestinal discomfort (29.59%) and ototoxicity (27.81%). Diabetes mellitus (16.67%) and Human Immunodeficiency Virus (14.58%) were the two most important co-morbidities mostly associated with multidrug resistant tuberculosis. There was no association between the types of ADRs and the number of co-morbidities recorded. However, there was an association between the age of respondents and the occurrence of co-morbidities.

**Conclusion:** Adverse drug reactions are common in second line tuberculosis treatment. Hence patients should be encouraged to adhere to the first line treatments.

**Keywords:** Adverse Drug Reactions, Multidrug Resistant Tuberculosis, Mainland Hospital, Yaba

## WA008P

### Work challenges of hospital pharmacists working psychiatric hospitals in South Western Nigeria.

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**Background:** Pharmacists are being positioned to play a critical role in supporting people with mental illness and therefore faced with various challenges.

**Objective:** The purpose of this project was to assess the types and level of challenges faced by pharmacists working in psychiatric hospitals in South Western Nigeria.

**Method:** A descriptive study which involved the use of structured questionnaires distributed to 47 pharmacists working in the two main psychiatric hospitals in the South Western region of Nigeria and focused group discussions with a total of 10 pharmacists in both locations.

**Results:** Major challenges reported by the pharmacists working in the psychiatric hospitals included lack of a

functional drug information centre (89.3%), inadequate space and equipment to effectively carry out their duties (74.5%), patients' inability to purchase all prescribed medicines at the same time and poor drug compliance (100%). There were significant associations ( $P < 0.005$ ) between sex and dispensing of large volume of drugs ( $P = 0.003$ ), location and inadequate space and equipment to effectively carry out duties ( $P = 0.027$ ). Coping strategies adopted to handling these challenges included provision of incentives like the drug revolving fund (DRF) scheme, (78.7%) and making available affordable psychotropic drugs (89.4%).

**Conclusion:** The level of challenges faced by pharmacists in psychiatric hospitals is quite enormous. However, the socio-economic status of the mentally ill patients which affects their ability to purchase the drugs at once and invariably affecting compliance and adherence was found to be the most implicated challenge.

**Key words:** Challenges, psychiatric hospital, coping strategies.

#### WA009P

### Effects of antimalarial drugs on the motor and behavioral programs in *Drosophila melanogaster*

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**Background :** Antimalarial drugs, used for the control and prevention of malaria infection, affect other parts of the human body to alter certain physiological functions. The neurons form discrete circuits that mediate complex behaviours. Little is known of how the use of antimalarial drugs affects these physiological processes that defines wellness.

**Objectives :** In the present study, we evaluate the effects of antimalarial drugs on the motor and behaviour programmed activities in the brain using *Drosophila melanogaster* model.

**Methods :** Anti-malarial drugs (Sulphadoxine/Pyrimethamine, chloroquine, artesunate, mefloquine and quinine) were administered to *Drosophila melanogaster* on filter paper. The locomotion (climbing), feeding and grooming-aggression assays were performed according to standard methods. The performance indices, feeding events and aggressive presentations were determined. The findings were analyzed and  $P < 0.05$  was taken as significant.

**Results :** The mean performance indices for locomotion were high ( $> 0.6$ ) in all flies treated with the antimalarial drug but highest (1.0) in female *Drosophila* flies treated with Artesunate and lowest (0.31) in male flies treated with mefloquine. Quinine- and mefloquine-treated flies had suppressed aggression and grooming behaviour compared to untreated flies. The Artesunate-treated flies had highest indices for aggression and grooming performance ( $P = 0.021$ ); in all drugs treated groups, female flies had increased feeding rate ( $P = 0.0001$ ) than male flies. The mean feeding time was  $47.25 \pm 26.08$  min and significantly shorter in Artesunate-treated group ( $46.07 \pm 26.78$  min).

**Conclusion :** The findings from this study showed that antimalarial drugs do not only act on parasite but may alter locomotion, feeding, aggression and grooming behaviours in exposed individuals. More studies are required to elucidate on molecular basis for this findings using available *Drosophila melanogaster* genetic tools.

**Keywords:** Antimalarial drugs, motor and behavioral programs *Drosophila melanogaster*

#### WA010P

## A comparative study of classes of DTPs and pharmacists interventions in an urban and a rural Federal Capital Territory Administration hospital

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**Background:** The components of pharmaceutical care philosophy are social need, patient centeredness, caring and pharmacist's responsibilities. It is the pharmacist's responsibility to provide the same quality of care to all patients requiring it irrespective of practice setting.

**Objectives:** The objectives of this study were to evaluate the classes of drug therapy problems (DTPs) encountered; assess the type and impact of pharmacist intervention and compare the practice of pharmaceutical care in an urban and rural Federal Capital Territory Administration (FCTA) hospital.

**Methods:** A 32-month retrospective study on the documented DTPs in an urban and rural FCTA Hospital, followed by a 3-month prospective study of DTP and pharmacists intervention in the Hospitals.

**Results:** The number of DTPs identified in the study were 111 in the urban and 158 in the rural setting. Of all the identified DTPs 72.9% had major potentials to cause harm and 98.9% were resolved. Chi square test was used to compare the DTPs ( $p = 0.351$ ), their causes ( $p = 0.266$ ), the pharmacists intervention ( $p = 0.168$ ) and outcome of the intervention process ( $p = 0.734$ ) in the two hospitals.

**Conclusion:** The most common DTP in both settings was drug effect which was mainly caused by drug selection problem. DTPs involving antibiotics and antiretrovirals were the the most commonly documented, please clarify. Pharmacists in both settings prevented harm to patients by preventing and resolving DTPs. There was no significant difference in the practice of Pharmaceutical care in the two settings.

**Key words:** Pharmaceutical care, drug therapy problems, pharmacist intervention.

### WA011P

#### Prevalence of comorbid depressive disorder in multidrug resistance tuberculosis patients

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**Background:** Tuberculosis (TB) is a serious public health problem in Nigeria with an estimated prevalence of nearly 900, 000 cases. Studies have shown that the prevalence of depression and other psychiatric disorders is high among patients with tuberculosis with documented prevalence of 27.7%, 49% and 11% in different studies.

**Objectives:** This study was designed to evaluate the prevalence of depression as comorbidity among patients on admission for multidrug resistance tuberculosis treatment at Government Chest Hospital Ibadan, southwest Nigeria.

**Method** In-Patients undergoing eight month long intensive treatment for MDR- TB over a two year period were evaluated for cases of depression as co morbidity with the aid of a 12- item general health questionnaire after satisfying the enrollment criteria. Data obtained was analyzed with the aid of SPSS version 20

**Result:** The prevalence rate of depression among MDR-TB patients was 12.2 %, much lower than in some previous

studies. The result indicates that there is significant association between TB and depression. It also revealed that the collective presence of age, sex, social status, occupation, marital status, state, co morbidities have significant influence on depression.

**Conclusion :** The prevalence of depression in the MDR-TB patients at the center is low and is thought to be probably due to the pharmaceutical care and patient support strategy employed at the center. Further studies in other MDR-TB facilities is highly recommended

**Keywords :** MDR-TB, Depression, General health questionnaire

#### WA012P

### Drug use evaluation in Type 2 Diabetes Mellitus outpatients in a tertiary hospital in Southeast Nigeria; from the consulting room to the dispensary

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**Background:** Nigeria has the highest number of people living with diabetes mellitus in sub-Saharan Africa.

**Objective:** The study explored the outpatient antidiabetes medication utilization patterns in a teaching hospital.

**Methods:** The study was a retrospective descriptive, observational study to provide baseline information on oral antidiabetes drug use, which gives a clue to the state of diabetes care obtainable in the facility. Data were analyzed for descriptive statistics. Numeric data were expressed as mean  $\pm$ SD.

**Results:** The mean age of the subjects was  $58.8 \pm 12$  years and comprised 38 (62.0%) males and 23 (38.0%) females. The average number of drugs per prescription was  $7.6 \pm 1.7$ . Out of 399 patients, 792 drug therapy problems (DTP) were identified, which gave an average of  $2.1 \pm 1.4$  DTP per patient. Metformin was the highest prescribed oral antidiabetic agent, 320 (28%), followed closely by glibenclamide 261 (23%).

**Conclusion:** The use of antidiabetic drugs was sub-optimal in the facility.

**Keywords:** antidiabetes, utilization, outpatients, patient care, prescription, Nigeria.

#### WA013P

## Evaluation of level of adherence to exclusive breastfeeding among nursing mothers in Kaduna metropolis

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**Background:** Exclusive breast feeding (EBF) in the first six months of life is recognized as an important component of survival, physical and mental development of children. The 2013 Nigerian Demographic & Health Survey reports that only a minority of mothers (33%) achieves the WHO-recommended initiation within one hour of birth and continues to breastfeed exclusively for six months (17%).

**Objective:** In this study, the current level of adherence to the practice of exclusive breastfeeding among nursing mothers in Kaduna metropolis, Northwest Nigeria was evaluated with the aim of identifying barriers to successful exclusive breastfeeding.

**Method:** This descriptive cross sectional study was carried out with the aid of a structured questionnaire at the Barau Dikko Teaching Hospital, Zaria and Gwamna Awwal General Hospital in Kaduna. The respondents were recruited by simple random sampling technique with the assistance of trained research assistants for four consecutive weeks in each of the hospital. Data were analyzed using SPSS version 16.

**Results:** Majority of the mothers were in the age range of 21-40 years. Their main source of information on breastfeeding was from ante-natal clinics (78.3%). Most (86.6%) of the nursing mothers had a good knowledge and awareness about exclusive breastfeeding, 94.3% of them were able to correctly define it, 69.1% of them initiated breastfeeding immediately after birth (within an hour) and 70% of the mothers had practiced exclusive breast feeding before.

**Conclusion:** Findings from this study showed that most of the respondents had a very good knowledge of exclusive breastfeeding and are practicing it.

**Key words:** Adherence, breast feeding, nigeria

### WA014P

#### Family planning services: caregivers and users perspectives in Bauchi state, Nigeria

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**Background :** The use of modern contraception methods have improved in Nigeria among married women over the last decade peaking at 15% in the 2008-2013 Demographic Health Survey (DHS). However, variation exist in the six geopolitical regions with the Northeast region having the lowest percentage of usage of 3%. We examined the barriers and opportunities responsible for this trend from caregivers and users perspective in Bauchi Metropolis.

**Methods :** Semi-Structured interviews were conducted between March and June 2016 among users and service providers (Careers) of family planning services. A purposive sampling method was used in selecting five major facilities in the state and 23 users attending Family planning services. The sessions were audio-taped and transcribed data were analyzed using Nvivo software version 11. An Inductive approach was employed to analyze the data. Reasons given for Family Planning uptake and rejection were obtained.

**Results :** The major reasons accounting for the use of Family Planning were the need to space childbirth, spousal support, accessibility and positive attitude of service providers. The barriers in the utilization of Family Planning services ranges from the fear of potential side- effect, distance, long waiting time, lack of spousal support, religion and harmful socio-cultural barriers among others.

**Conclusion:** Many reasons were alluded to the low uptake of Family Planning services in Bauchi from users and caregivers. To improve family planning utilization in the Northeast region of Nigeria, there is the need for policy makers to use innovative methods that will target men, women, alongside religious and traditional leaders.

**Keywords:** Family Planning; Users; Caregivers; Semi-structured interviews; barriers; opportunities

#### WA015P

### Knowledge of cervical cancer and willingness to screen among female attendees in Nyanya general hospital FCT Abuja.

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**Background:** Cancer is a disease in which cells in the body grow out of control. Cancer is always named for the part of where it starts, even if it spreads to other parts later. Knowledge, Awareness, and Screening of female adult for cervical cancer could enhance earlier diagnosis as a preventable measures.

**Objective:** The study aimed to examine the knowledge of cervical cancer and willingness to screen among female Attendees in Nyanya General Hospital FCT, Abuja.

**Methods:** The study was a descriptive cross-sectional carried out using structured questionnaires that were administered on the female attendees who presented in the facility aged 21 years and above. A total of 357 questionnaires were distributed to eligible respondents and 328 were retrieved and validated. The data obtained were analyzed using simple percentage and mean score with the aid of Statistical Package for Social Science (SPSS) Version 20.

**Result:** Significant number of respondents (mean score 2.94) are aware of the existence of cervical cancer. However majority of those who are aware had never gone for screening having a mean score 3.91. However, as high as mean score of 3.91 knows the importance of cervical screening while up to mean score of 3.94 were willing to undergo cervical cancer screening. As high as mean score of 2.59 disagreed that there are screening centres for cervical cancer in their locality.

**Conclusion :** The study shows that the knowledge and awareness of cervical cancer among the female attendees at Nyanya General Hospital was not satisfactory, however majority are willing to be screened, which could help in early diagnosis as a preventable measures.

#### WA016P

## Quality Assessment of the Individual Case Safety Reports on the Nigerian Pharmacovigilance Centre Database

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**Background:** National Pharmacovigilance Centre (NPC) maintains database of individual case safety reports (ICSRs).

**Objectives:** To evaluate the quality of ICSRs collected by NPC and determine adequacy of the ICSR reporting form.

**Methods:** Qualitative design was used to conduct cross-sectional review of 6965 ICSRs sampled from 16,896 collected between 2005-2015, and 76 questionnaires administered to staff of NPC and Zonal Centers. Completeness-score (C) of ICSRs was adapted from VigiGrade developed by Uppsala Monitoring Centre (UMC). Parameters evaluated were time-to-onset, indication, outcome, sex, age, dose, suspect-concomitant drugs, reactions, institution-contact of primary reporter and reporter type. Descriptive statistics was conducted using SPSS version 23. Pearson Chi-Square evaluated associations between attributes and response to questionnaire.

**Result:** Out of 6965 ICSRs analyzed, 3035 were well-documented,  $C \geq 0.8$ . Quality trend declined from 2009, 59.6% through 2015, 39.7%. Pharmacists had the most reports but the quality was low 45.0%. Nurses and doctors had better quality reports 74.8% and 60.2% respectively. Time-to-onset, outcome and dosage parameters contributed to the undesirable outcome. Out of 40 returned questionnaires, 33 responded that the ADR form was adequate. Level of education and training in ADR did not significantly affect outcome.  $P$ -value = 0.049 and 0.05 respectively.

**Conclusion:** Well-documented ICSRs collected by NPC between 2005-2015 were 43.5%. Only these are considerable for clinical evidence and possible regulatory decisions. Improper reporting and not the ADR form was responsible for outcome.

**Key words:** Individual case safety reports, pharmacovigilance, quality

## WA017P

### Evaluation of knowledge, attitude, practice of pharmacists on supply chain management of health commodities

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**Background:** Access to quality health commodities and services, right from point of selection of right raw material to distribution and use of finished commodities would be robust with minimized stock outs and wastages if pharmacists are well informed via training on Supply Chain Management (SCM).

**Objective:** This study was aimed at evaluating knowledge, attitude and practice of pharmacists towards Supply Chain Management of Health Commodities.

**Method:** A survey was conducted among 150 Federal Capital Territory pharmacists using a 27 item questionnaire. Data were analysed using SPSS version 20. Chi Square was used for comparison of categorical variables, at 95% confidence interval.



**Results:** Response rate was 52%. The demographic frequency distribution showed that male respondents were higher in number 77 (51.3%) than female 73 (48.7%); the modal age group was 31-40 (38.7%). Source of training was diverse as rate for pre-service and in-service local training was 35% respectively. Only 2% had acquired the knowledge through on-line medium despite the wide internet access available to pharmacists through their phones or modem. The mean percentage scores for knowledge, attitude and practice measured were 77%, 82.6% and 78% respectively. Null hypothesis was rejected showing that pharmacists possess the knowledge required for them to function effectively and efficiently as logisticians. There is little or no significant difference between knowledge, attitude and practice on SCM of health commodities.

**Conclusion:** Respondents were generally knowledgeable, and had the desired attitude and practice towards Supply Chain Management of Health commodities.

**Key words:** Pharmacist's knowledge, Supply Chain Management, Health Commodity.

#### WA018P

### Attaining discharge from in-patient psychiatric rehabilitation: a three-year retrospective study in Lagos

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**Background:** Mental health rehabilitation is a whole systems approach to recovery from mental illness that maximizes quality of life and social inclusion by encouraging service users' skills, and promoting independence and autonomy. This gives them hope for the future and leads to successful community living. Discharge from in-patient rehabilitation is a measure of good outcome as it marks an important stage in the individual's recovery. With appropriate treatment in rehabilitation, even individuals with highly challenging difficulties can move on to successful and stable community living.

**Objectives:** To determine retrospectively the percentage of people discharged within a three-year period and to identify factors associated with discharge.

**Method:** Data on 63 users of a mental health rehabilitation service in Lagos were obtained through the review of case files. Users were grouped as either discharged or non-discharged. Data was also collected on factors potentially associated with discharge. The groups were compared on different variables using independent t-test and Pearson's Chi-Square test.

**Results:** 12 (19.0%) people were discharged within the three-year period. Those discharged had previously used a psychiatric hospital ( $p=0.038$ ) and had a significantly shorter length of stay in the rehabilitation centre than those not discharged (mean stay was 2.3 years versus 5.6 years,  $p=0.010$ ). Patients' demography, diagnosis, treatment received or adherence were not significantly associated with outcomes.

**Conclusion:** Majority of the people were not discharged within the period considered. Discharge was significantly associated with previous use of a psychiatric hospital and shorter length of in-patient rehabilitation.

**Keywords:** Inpatient, psychiatric, rehabilitation, discharge.

#### WA019P

## A ten- year drug utilization study in University of Abuja teaching hospital pediatric outpatient

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**Background :** Irrational use of drugs is adversely affecting health outcomes globally. Irrational use of drugs has led to ineffective and unsafe treatment, exacerbation or prolongation of illness, distress and harm to patients. This study was designed to assess the prescribing patterns of medicines by applying the World Health Organization (WHO) prescribing indicators.

**Method:** A descriptive cross-sectional survey was conducted to determine the current prescribing practices at University of Abuja Teaching Hospital Pediatric out-patient Unit. The sample was selected using simple random sampling. 700 patient encounters were reviewed retrospectively for a 10-year period from November 2005 to November 2015. Data were collected from case notes/ patient folders.

**Result:** The average number of drugs prescribed per encounter or mean was 2.83 (SD 1.18) with a range between 1 and 4. The percentage of encounters in which an antibiotic or injection was prescribed was 64% and 90.5 %, respectively. The percentage of drugs prescribed by generic name and from an essential drug list were 25.8% and 100%, respectively. The most commonly prescribed forms of antibiotics were Amoxicillin/Clavulanic acid 58.3%, Cefuroxime 10.8%, and Azithromycin 4.8%. The most commonly prescribed injections were, ceftriaxone 3.2% Artemether 18.1%, while anti-malarial mostly prescribed were Artemisin Combination Therapy (ACT) 78.8%, with Artemether/Lumenfantrine been the highest prescribed 69.4%.

**Conclusion:** On the basis of the finding of this study, prescribing was based on EDL. However, prescribing practices for antibiotic and injection show deviation from the standard recommended by WHO. Poly pharmacy and brands prescribing were found to be a problem in this facility. There is need to improve in the prescribing habit of doctors in this facility in terms of antibiotic, injectable, generic prescribing and polypharmacy.

**Keywords:** irrational drug use, prescribing pattern, prescribing indicators, drug utilization.

## WA020P

### Formulation of emulsions using *colocynthis citrullus l.* (melon) seed oil

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**Background:** *Colocynthis citrullus L.* (Melon) is abundant in Nigeria with production figure of 347,000 tonnes pa. It is predominantly used as condiment and soup thickener. Melon seed oil is high in linoleic acid (62.2%), an unsaturated fatty acid essential in human diet that lowers the risk of coronary heart diseases. The industrial scale production and use of the oil is however largely unexplored.

**Objective:** Evaluate melon seed oil as drug carrier system in emulsions.

**Methods:** Melon seed oil was extracted and characterized using organoleptic, phytochemical and physicochemical analyses. Emulsions of the melon seed oil were prepared using dry and wet gum methods and microemulsions were prepared using phase behavior study. Globule size, viscosity, creaming, degree of emulsification, pH and transmittance were used as assessment parameters to compare the emulsion with castor oil emulsion.

**Results:** Melon seed oil was devoid of heavy metals with a pH of 7.06. Physicochemical analysis revealed higher acid,

saponification and ester values than castor oil but lower iodine value indicating an edible non-drying oil that is not susceptible to auto-oxidation. Alkaloids, terpenoids, anthraquinones and cardiac glycosides were present. Melon seed oil emulsion prepared using the dry gum method generally exhibited higher viscosity and lower degree of creaming but comparable stability to castor oil emulsion. Melon seed oil (2 % v/v) produced the best microemulsion with globule size of 0.06 – 1.09  $\mu\text{m}$  and % transmittance of 30.37. Melon seed oil generally achieved better degree of emulsification than castor oil.

**Conclusion:** This study shows that melon seed oil may be useful in oral emulsion formulations.

**Keywords:** melon seed oil, *Colocynthis citrullus L.* oil, emulsion, microemulsion, drug carrier system

#### WA021P

### Assessment of adherence to antiretroviral therapy in university of Abuja teaching hospital, Abuja-Nigeria

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**Background:** Adherence rates for medication vary greatly across different disease states, clinical settings and populations. In patients living with Human Immunodeficiency Virus, strict adherence to antiretroviral therapy is critical to restoring immune functions, reducing rates of drug resistance and preventing progression of the disease.

**Objective:** This study evaluated adherence level of the adolescent/adult people living with Human Immunodeficiency Virus, through self-report by the participants; looked at the possible relationship between adherence and antiretroviral therapy knowledge, waiting time, health literacy and having a social support.

**Methods:** Participants were interviewed with a semi-structured thirty-six item questionnaires as they accessed services at the clinic.

**Results:** Self-reported optimal dose adherence in the study area was 89.4 percent. Optimal dose adherence was defined as a no missed dose or only one missed dose in the last fourteen days.

Basic knowledge of antiretroviral therapy and having a form of social support were both found to be statistical predictor of high medication adherence rate in this population; while waiting time and level of formal education were found not be statistical predictor of medication adherence.

**Conclusion:** Good knowledge of antiretroviral therapy achievable through proper multidisciplinary adherence counseling was a predictor of high level of adherence; adherence support must therefore be continuously integrated into regular clinic visit by all involved.

**Key words:** Adherence, antiretroviral therapy, HIV, patients

## WA022P

### Investigation of the stability of extemporaneous liquid formulations of captopril using the crushed tablets

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**Background:** Captopril is the angiotensin converting enzyme inhibitor of choice in the treatment of hypertension and congestive heart failure in paediatric patients, but it is only available commercially as 25mg and 50mg tablets. Since low doses of captopril are required by these patients, extemporaneous oral liquid formulations are prepared

**Objectives:** The aim of this study is to evaluate the stability of extemporaneous preparation of captopril, using different formulations which have been stored at different storage conditions (a real time study).

**Methods:** Three different formulations of captopril were extemporaneously prepared from captopril tablets, using distilled water, simple syrup BP and ascorbic acid as vehicles. The preparations were stored in plain and amber-coloured plastic bottles and exposed to different storage conditions – room temperature ( $25\pm 3^{\circ}\text{C}$ ), refrigeration ( $5\pm 3^{\circ}\text{C}$ ) and direct sunlight. Changes in the colour, odour, physical appearance, viscosity and pH of the preparations were monitored. Microbiological (bacterial and fungal) and chemical (by HPLC) assays were also carried out.

**Results:** Captopril in the formulation prepared with undiluted simple syrup was slightly more stable (93.74% at 14 days) than the formulation prepared with water-diluted simple syrup (97.16% at 7 days). The formulation prepared with distilled water was found to be highly unstable (chemically, physically and microbiologically). Refrigeration temperature ( $5\pm 3^{\circ}\text{C}$ ) was found to be the most appropriate storage condition, even though problems of crystal formation and difficulty in redispersibility were encountered.

**Conclusion:** The stability of extemporaneously prepared captopril oral liquids depends mainly on the vehicle, presence of antioxidants and the conditions of storage.

**Keywords:** Captopril, extemporaneous preparation, stability studies, storage conditions

## WA023P

### Adoption of telepharmacy among community pharmacists in Osun State of Nigeria

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**Background :** Telepharmacy is the use of information and communication technologies to provide comprehensive pharmacy services when distance separates the participants. The technology is growing globally and offers opportunity for pharmacist-provided services to clients in remote locations especially in resource-limited environments as currently prevalent in developing countries.

**Objectives :** The study examined attitude to telepharmacy, and assessed its level of adoption, among community pharmacists in Osun State.

**Methods :** The study was a cross sectional descriptive survey of 80 among the 100 community pharmacists in Osun

State. Primary data were employed, and obtained, using a set of semi-structured questionnaire. The two-section instrument was designed with the first section having Likert-type items on agreement scale having five alternative responses with weighing scores of 0-4. The second section sought information on telepharmacy adoption level and was measured with items having seven alternative responses with weighting scores of 0-6, representing seven progressive stages namely lack of awareness, awareness, persuasion, decision, trial, implementation and confirmation, in adoption process. Collected data were analysed using descriptive and inferential statistics at 5% level of significance.

**Results:** The results showed that the community pharmacists in Osun State possessed positive (MWA=3.00) attitude to telepharmacy with low (MWA≈2) level of adoption.

**Conclusion:** The community pharmacists in Osun State have positive attitude to telepharmacy, the level of its adoption was far from actualisation. However, adoption of telepharmacy can be achieved through sensitization of community pharmacists, to the benefits of the technology, by professional associations.

**Keywords:** Telepharmacy, adoption, attitude, information and communication technology, community pharmacists.

#### WA023P

#### Evaluation of logistics management of malaria commodities in primary health care in Osun state, Nigeria

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**Background:** Malaria remains a major public health problem and its control requires an uninterrupted supply of products.

**Objectives:** To evaluate availability of malaria commodities, determine patient accessibility and satisfaction with antimalaria services, along with the level of patient adherence to therapy.

**Methods:** One set of semi-structured questionnaire was administered to 12 service providers at the State level and 249 at the service delivery points to sought information on availability of malaria commodities. Another set of questionnaire was administered to 431 patients to sought information on patient accessibility to malaria commodities; patient adherence to therapy and satisfaction with antimalaria services. Interview, personal observation and review of documents on malaria control were also carried out. Descriptive statistics were used to summarise the data. Chi-Square and multinomial logistic regression were used to determine significant differences between variables at 5% level of significance.

**Results:** Malaria commodities were available at the State level but the supply was inadequate (83%) at the service delivery points. The unexpired availability of malaria commodities was 100% at the State level but with zero percentage of stock-out time. However, the respective values were 68% and 17% at the service delivery points. The proportion of patients who had free access to antimalaria services was 83% and satisfaction with antimalaria services was 88%. On the other hand 99% of patients adhered to therapy.

**Conclusion:** Malaria commodity security in Osun State was low with inadequate supply at the service delivery points.

**Keywords:** Malaria commodities, state level, service delivery points, service providers.

#### WA024P

### Treatment of disease conditions in first trimester pregnancy in Federal Medical Centre, Yenagoa

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**Background:** Certain drugs administered during first trimester pregnancy may be harmful to the unborn child. Total avoidance of drugs in first trimester pregnancy is not possible as pregnant women are known to fall ill and some enter into pregnancy with medical conditions requiring on-going treatment. In spite of the relevance of FDA rating in providing therapeutic guidelines in prescribing, no such study has been published on treatment of disease conditions in first trimester pregnancy in Yenagoa to the best of our knowledge.

**Objective:** The study aimed at determining the safety of drugs used as rated by FDA.

**Methods:** A retrospective study was done to determine the safety of drugs used for the treatment of certain disease conditions from 610 case notes randomly selected from a total number of 18091 seen in the antenatal clinic of Federal Medical Centre, Yenagoa comparing the periods of January - April 2013 and 2014.

**Results:** Of the 610 case notes reviewed for the two periods, HIV accounted for the most encountered conditions with 142(23.3%) while gastroenteritis accounted for the least encountered conditions with 13(2.1%). Comparing the two periods reveals a decrease and an increase in some disease conditions and differences in the treatment. All the drugs used followed the therapeutic guidelines provided by FDA rating.

**Conclusion:** The study shows that all conditions encountered were treated with drugs that are either in category B or C in the FDA rating and are safe.

**Key words:** Pregnancy, First Trimester, Disease Conditions, Drugs, Treatment, FDA Rating.

#### WA025P

### Assessment of health workers' knowledge, attitude and practices towards pharmacovigilance at a tertiary health care facility in Federal Capital Territory, Abuja, Nigeria.

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**Background:** Pharmacovigilance is paramount in safeguarding the health of citizens of any nation and protecting them from the adverse effects of drugs. The reporting of adverse drug reactions by health workers should be viewed as an obligation and a necessity in protecting the health of any nation.

**Objectives:** To assess the health workers' knowledge, attitude and practices towards pharmacovigilance and to evaluate possible factors that may be responsible for under-reporting of adverse drug reactions at a tertiary health care facility in Abuja, Nigeria.

**Method:** A cross-sectional study was carried out with the aid of a pretested structured questionnaire. The respondents in the study comprised of two hundred healthcare workers comprising of doctors, pharmacists, nurses, patient care attendants, embryologists and dietician.

Purposive and random sampling techniques were used. Statistical analysis was performed using descriptive and inferential analyses with the aid of Statistical Package for Social Sciences version 20.

**Results:** Seventy five percent had poor knowledge of pharmacovigilance. Eighty six percent scored high on the attitude assessment. Eighty seven percent had poor practice of pharmacovigilance. Lack of time, difficulty in deciding whether adverse drug reaction has occurred, feeling that a single unreported case may not affect the database and lack of remuneration were enumerated as some of the factors responsible for under-reporting.

**Conclusion:** The health care workers at the facility have a high positive attitude towards pharmacovigilance. However, their knowledge level about and their practice of pharmacovigilance is low.

**Keywords:** Pharmacovigilance, health workers, knowledge, attitude, practice, Abuja

#### WA026P

### The design of ibuprofen-loaded microbeads using polymers obtained from *Xanthosoma sagittifolium* and *Dillenia indica*

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**Background:** Ibuprofen is an anti-inflammatory drug with a short half-life and diverse gastrointestinal disturbances when used.

**Objectives:** The objective of the study was to design ibuprofen microbeads using polymers obtained from *Xanthosoma sagittifolium* starch and *Dillenia indica* mucilage to provide sustained release delivery of ibuprofen and reduce its adverse effects.

**Methods:** Polymers were extracted using standard methods and characterized by material, physicochemical, elemental and rheological profiles. Microbeads loaded with ibuprofen were prepared by ionotropic gelation method using blends of the polymers and sodium alginate. The microbeads were evaluated using particle shape, particle size, micromeritic properties, swelling index, entrapment efficiency and release studies.

**Results:** The results showed that the polymers have distinct material and physicochemical properties unique to their botanical sources. The microbeads had spherical shape with swelling index ranging from  $47.62 \pm 2.74$  to  $79.49 \pm 3.66$  %. The particle size of the microbeads ranged between  $88.14 \pm 68.57$  to  $214.90 \pm 66.95$   $\mu\text{m}$  while encapsulation efficiencies ranged from  $20.67 \pm 4.66$  to  $83.61 \pm 6.35$  %. The result of the dissolution times showed that the concentration of the natural polymers in the bead formulation could be used to modulate the dissolution properties. Generally, formulations containing the mucilage gave higher dissolution times compared to those containing the starch. The kinetics of drug release from the microbeads containing the polymer blends generally fitted the Korsmeyer-Peppas model.

**Conclusion:** The microbeads prepared using polymers obtained from *X. sagittifolium* and *D. indica* showed acceptable physicochemical properties for ibuprofen.

**Keywords:** *Xanthosoma sagittifolium*, *Dillenia indica*, polymers, Ibuprofen microbeads.