CONFERENCE ABSTRACTS

LIVE/ONSITE ABSTRACT PRESENTATION

WA 001

Pharmaceutical waste management in community pharmacies in Lagos State, Nigeria.

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Background: An average community pharmacy in Lagos State, Nigeria, stocks between 2000 to 4000 drug items. A significant amount of wastes from these have been found in both underground and drinking water. Poor management of pharmaceutical wastes exposes the community to toxic environmental effects.

Objective: This study assessed the management of pharmaceutical wastes by community pharmacies in Lagos State, in order to provide information for improved waste management.

Methods: The cross-sectional study among the Community Pharmacists recruited participants through social media platforms or in person at the Pharmacists Council of Nigeria office during their visit.

Results: A total of 211 respondents completed the survey, out of 74.4 % indicated awareness of proper pharmaceutical waste management. Storage of pharmaceutical wastes was found to be both in the pharmacy and other specified places. About 41.7 % of respondents were aware of the periodic requests for waste submission by the Association of Community Pharmacists of Nigeria, while 48.3 % were unaware. A percentage of 71.6 % respondents generated wastes outside pharmaceutical wastes (chemicals, sharps, infectious) while 23.7 % did not. Respondents (32.7 %) generated wastes monthly, not regularly (23.7 %), quarterly (17.5 %) and yearly (14.7 %). About 43.1 % disposed their wastes themselves, while 21.3 % of the respondent disposed via regulatory agencies.

Conclusion: The level of awareness of appropriate pharmaceutical waste management was high, but the practice of standard disposal methods was low. Measures are needed to improve pharmaceutical waste management in Lagos State.

Keywords: Community Pharmacists, Pharmaceutical waste, management, disposal

WA 002

Evaluation of compliance of herbal products with the NAFDAC labeling requirements

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Background: A label is a critical part of any product providing vital information regarding the product. Medicine regulatory agencies provide guidelines on the labeling of all medicinal products. In Nigeria, the National Agency for Food and Drug Administration and control is responsible for this.

Objective: To assess the extent of compliance of registered herbal medicinal products on sale in wholesale Pharmacies within the Abuja Municipal Area Council (AMAC) with the NAFDAC labeling guidelines.

Methods: The study was a cross-sectional descriptive study conducted from July to September 2021 across wholesale pharmacies in select Wards of AMAC. Herbal products that met the inclusion criteria were sampled. The data was collected using a checklist adapted from the NAFDAC "Herbal Medicines and Related Products Labeling Regulations 2019" Publication. The collated data was analyzed and presented using descriptive statistics like mean and percentages.

Results: Out of 296 samples, 71 (24%) checked out on the NAFDAC database with genuine numbers while 225 (76%) could not be assessed due to a non-updated database. The most omitted label information was excipients (47%) and strength of Active Pharmaceutical Ingredients (11%). Also, 23% of samples had manufacturing and expiration dates presented in wrong formats with 8% of samples having less than satisfactory font sizes.

Conclusion: Generally, a satisfactory level of compliance was observed with the labels studied. NAFDAC should however intensify its surveillance of these herbal products to ensure better compliance and also maintain an up-to-date database of the products.

Keywords: Herbal products , NAFDAC

WA 003

Assessment of the impact of medPlan®, a medication reminder mobile application, on medication adherence in Glaucoma Patients in Benin City, Nigeria

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Background: Smartphone medication reminder applications may reflect a neoteric approach to medication adherence.

Objective: To assess the impact of medPlan®, a medication reminder mobile application on medication adherence in a study population.

Methods: A randomized control trial with 2 months follow-up period. A total of 200 patients being treated for glaucoma were randomized into either a control or study group. The study group comprised participants who used a medication reminder mobile application, medPlan®, while the control group consisted of those patients who did not use the application. Adherence to medication was measured for all the patients in both groups. Data was collected using a carefully designed questionnaire and statistically analyzed.

Results: This study recorded 100 % response rate from the participants. In the study group, adherence among 56 % of respondents was high, 18 % showed moderate adherence, and 26 % were non-adherent. This was against 45 % very adherent, 13 % moderately adherent and 42 % non-adherent respondents from the control group. In addition, 78 % of those in the study group agreed that there was improvement in their medication adherence since they started using the medication reminder application. This showed a significant positive impact of the medication reminder application ($p = 0.0110$) on adherence to medication.

Conclusion: Medication adherence was improved in glaucoma patients who used medPlan®, a smartphone medication reminder application. This study lays a foundation for further research on medication reminder mobile applications.

Keywords: Glaucoma, Smartphone, Medication adherence, Impact, Medication reminder, medPlan®

WA 004

Healthcare professionals and patients' perceptions on the use of herbal medicines to control diabetes mellitus and hypertension in Nigeria

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Background: The economic burden of orthodox medicines, the significant risk factors of Non-communicable disease (NCDs) like diabetes and hypertension (HTN) has been attributed to modernization. Hence the need to evaluate health workers/patients' perception on the impact of herbal medicines in management of NCDs, disease prevention and health promotion.

Objective: The study evaluated healthcare professionals and patient's perceptions of the use of herbs to control diabetes mellitus (DM) and hypertension

Methods: The study utilized a rrandomized sampling method for the survey; an online form was designed and used for data collection. The form (questionnaire) was sent to professional and non-professional groups having the target population (patients and relatives).

Results: Majority of the participants stated the use of Bitter leaf (Vernonia amagdalena) in the management of HTN (33.0%) and DM (9.9%). Other plants mentioned include Moringa leaves HTN n(5.5%), DM n(6.6%); Carica papaya; HTN (9.9%), DM (8.2); Ginger, and DM (12.6%). Dogoyaro/Agbo (4.9%). Notable antidiabetic plants reported in this study include Rauwolfia vomitoria (1.1%), Ugwu leaves (2.2%), Hibiscus (zobo) (4.4%), Ocimum gratiscimum (1.1%), cucumber (1.1%), neem plant (3.8%). Previous knowledge on Diabetes Mellitus and hypertension as regards herbal uses between the patients and healthcare workers were significant.

Conclusion: The perception of healthcare professionals and patients on the usefulness of herbal medicines to control diabetes mellitus and hypertension in Nigeria were that it could relieve symptoms, could be effective the right doses and at the same time harmful if not properly standardized.

Keywords: Herbal medicine, Hypertension, Diabetes mellitus, Medicinal plants, Standardized

WA 005

Drug utilization pattern in the national health insurance scheme at the University of Portharcourt Teaching Hospital

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Background: The appropriate use of medicines is an important determinant factor in the quality of health outcomes. In developing countries, irrational use of drugs including overuse is a common problem.

Objective: The study assessed the pattern of drug utilization in the National Health Insurance Scheme (NHIS) and compliance to World Health Organisation/International Network for the Rational Use of Drugs (WHO/INRUD) prescribing indicators in a tertiary hospital.

Methods: The study was a descriptive retrospective study conducted using 650 prescriptions presented at NHIS pharmacy dispensing unit of the hospital between 1st December 2020 to 31st March 2021 using a structured data collection form. Data was evaluated using WHO guidelines. Results were analyzed using IBM SPSS version 2021 and Microsoft excel software.

Results: A total of 3420 drugs were prescribed in the study with an average of 5.2 (range 1-8) per prescription. Generic prescribing was 67.2% and 96% of drugs were under essential drug list. Percentage encounter with antibiotics was 46.6% while injections were prescribed in 3.5% of encounter. Analgesic, antihypertensive, antimalarial, antiplatelet and vitamins were prescribed in 59.2%,49.8%,48.9%,39.7% and 37.8% of encounter respectively.

Conclusion: The prescribing indicators were not consistent with the values recommended by WHO, although there was under prescription of injections and almost compliance with the principles of NHIS essential drug list which is commendable. Overuse of antibiotics and high rate of poly pharmacy require continuous monitoring.

Keywords: Drug utilization, National health Insurance Scheme, rational drug, prescribing indicators

WA 006

Willingness and readiness to provide immunization services: a survey of community pharmacists in Portharcourt metropolis, Rivers State, Nigeria

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Background: Immunization is a cost saving measures that successfully prevent infectious diseases. The recent outbreak of coronavirus pandemic has widened the existing immunization gap in Nigeria especially, in adult population. Community pharmacists in Nigeria are already involved in different public health services and will no doubt close immunization gap when given the opportunity.

Objective: The research aims to ascertain the willingness and readiness of community pharmacists in Port Harcourt, Rivers State to provide immunization services.

Methods: The research was a cross-sectional study conducted among community pharmacists within Port Harcourt Metropolis and surrounding urban towns. A validated questionnaire was used for data collection. Data were analysed by descriptive analysis using SPSS version 20 and chi-square was used to test for statistical difference.

Results: Majority of the respondents (83.4%) declared their willingness and readiness to pay and be trained to provide immunization services. Those who were willing strongly agreed that community pharmacy is suitable to provide immunization service.

Conclusion: Community pharmacists are willing and ready to provide immunization services if given appropriate training and enabling support.

Keywords: Community Pharmacists, immunization, services, willingness readiness.

WA 007

Viral suppression rates amongst paediatric patients on dolutegravir -based regimen in university of Abuja Teaching Hospital Gwagwalada, FCT, Nigeria

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Background: Nigeria adopted the integrase inhibitor dolutegravir as its preferred first-line HIV treatment regimen in 2018. Despite progress in reducing new HIV infections in children, Nigeria is far behind in reaching the 90-90-90 fast-track global targets for ending AIDS among children by 2030. Hence, viral load suppression is critical to treatment success.

Objective: To compare the viral suppression rates before and after transition to Dolutegravir- based regimen amongst paediatric adolescent patients

Methods: The study was a retrospective cross-sectional study carried out amongst stable adolescents who were on treatment and follow-up for HIV disease at the paediatric HIV clinic of (UATH), Gwagwalada. All adolescents who were treatment naïve to Dolutegravir use and whose parents/caregivers gave verbal consent were recruited for the study. Microsoft excel SPSS version 20.0 was used for data analysis and categorical variables was done using chi square and Fischer's exact test, while p< 0.05 was set at statistically significant.

Results A total of 153 clients aged 10 to 19years were studied. 56% were males, the mean weight was 28.9±11.69kg while the mean height was 138.66± 12.37cm. At six months before transition, 52% were virally suppressed, while at 12 months, the suppression rate was 66.7%. At six months post-transition, 70.6% became virally suppressed, while at 12 months, there was great increase of 86.9% of clients who became virally suppressed. P-value is significant at (p?0.0001) hence, there is significant difference before and after transition.

Conclusion: This study has shown that Dolutegravir-based fixed dose combination is efficacious in the treatment of adolescents with HIV/AIDS with significant viral load suppression.

Keywords: Tenofovir-Lamivudine- Dolutegravir combination, viral load suppression, paediatric- HIV patients

WA 008

The role of the National Agency for Food and Drug Administration and Control (NAFDAC) in the COVID-19 pandemic - a regulatory perspective

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Background: The coronavirus disease of 2019 (COVID-19) pandemic was very sudden. The disease burden was overwhelming to health systems and regulatory bodies all over the world. Predictably, the situation was no less different in Nigeria, particularly with regards to the registration of protective equipment by the regulatory Agency.

Objective: This research work was aimed at examining the role of the National Agency for Food and Drug Administration and Control (NAFDAC) with regards to its regulatory activities during the recent COVID-19 pandemic.

Methods: A cross-sectional descriptive survey was adopted in fulfilling the objectives of this study. A total of 140 questionnaires were distributed to the staff of the Drug Registration and Regulatory affairs, Post Marketing Surveillance & Pharmacovigilance, Drug Evaluation & Research, and Laboratory Services with a high concentration of graduates and postgraduates with varying training in their directorate. The results were expressed in descriptive statistics of frequency, percentage, and cross tabulations.

Results: There were more female (55%) than male (45%) respondents. With respect to the role of NAFDAC in COVID-19 vaccine review and endorsement, all the respondents agreed that the approval of COVID-19 vaccine by NAFDAC was based on EUA policy. When considering the NAFDAC's post vaccination pharmacovigilance activities, 92% of study participants indicated that they were aware that the Agency had trained personnel in the monitoring of patients with Adverse Events Following Immunization (AEFIs). The study also revealed that the number of years a staff member has spent on the job does not have a significant effect on his/her knowledge of duties (P<0.05).

Conclusion: The regulatory roles of the Agency during the COVID-19 pandemic were well defined, and these roles were effectively and efficiently carried out by staff members.

Keywords: covid-19, NAFDAC, AEFI, role, regulatory

WA 009

Microbiological analysis of pediatric antimalarials sold in an open drug market in Southern Nigeria

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Background: A huge malaria burden in poor countries with little capacity to manufacture essential drugs and poor regulation have led to the proliferation of unregulated markets where medicines of questionable quality are sold. The quality of antimalarials must be ascertained, especially those from unregulated sources.

Objective: To ascertain the qualitative and quantitative microbiological contamination of pediatric antimalarials, this study evaluated a popular oral pediatric artemisinin-based combination therapy being sold in an open drug market in Southern Nigeria.

Methods: A cross-sectional microbiological analysis of pediatric antimalarials for oral use purchased from the open drug market was conducted for viable aerobic bacterial count, total yeast and mold count and presence of obnoxious bacteria in the samples. Standard microbiological tests for aqueous non-sterile pharmaceutical dosage forms for oral use were performed.

Results: About 16.7 % of the samples were contaminated with viable aerobic bacteria beyond the official limit, while over a quarter (27.8 %) revealed presence of yeasts and molds above recommendation for both viable bacteria and yeasts and molds respectively.

About 61.9 % of bacteria isolated from the samples was determined to be *Bacteria subtilis*, 19.0 % was observed to be *Staphylococcus aureus, Escherichia coli* (14.3%) and *Pseudomonas aeruginosa* (4.3%). Yeasts and molds included *Aspergillus niger* (55.6 %), *Candida albicans* (22.2 %) and *Penicillium spp*. (22.2 %) respectively.

Conclusion: Less than half (44.4 %) of samples failed pharmacopeial microbiological quality standards for aqueous non-sterile pharmaceutical preparations for oral use.

Keywords: Contamination, Non-sterile products, Microbial quality

WA 010

Extemporaneous preparation and stability assessment of a paediatric dry powder reconstitutable isoniazid suspension: a model intermittent preventive tuberculosis formulation for resource limited settings.

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Background: Isoniazid is a frontline antitubercular drug used for intermittent preventive chemotherapy. Adult anti-tubercular tablet formulations present with issues of dose inaccuracies for the paediatric population, hence reconstitutable powder formulations are preferred.

Objective: This study developed and determined the stability of a reconstitutable extemporaneous isoniazid paediatric suspension

Methods: The required formulation ingredients ; isoniazid (active pharmaceutical ingredient), sodium carboxyl methylcellulose and tragacanth (suspending agents), sodium citrate and citric acid monohydrate (perseverative, flavouring, buffering agents) and lactose (sweetener) were finely triturated, sieved (100µm mesh), packaged and stored appropriately until required for analysis. The powder micromeritics properties were determined using established methods. Calibration curve of isoniazid was undertaken at 264 nm, followed by stability assessment of the reconstituted suspensions stored at 6 ± 2 0 C (T6) and 25 ± 20 C (T25) over a period of 30 days through quantitative drug content and sedimentation volume determination.

Result: The powder system had acceptable organoleptic properties. Micrometric parameters: bulk density (0.58± 0.30g/ml), tapped density (0.62±0.25g/ml) and flow properties: Hausner's ratio (1.13± 0.1), Compressibility index (10.5± 0.32 %), Angle of repose (22.3 ± 2.50), Calibration curve was linear with r2 value of 0.991. The drug contents of the reconstituted formulations were 105 % and were 104% and 100 % at 14th day for Formulations T6 and T25 respectively. Drug content was 92% (inference of instability) in both formulations by the 30 day. Suspensions were finely dispersed, the sedimentation volumes were respectively 43 and 48%

Conclusion: An extemporaneous model paediatric dry powder reconstitutable isoniazid suspension with established stability profile has been developed.

Keywords: Extemporaneous, Isoniazid, Paediatric Population, Intermitent Preventive Therapy, Stability