

CONFERENCE ABSTRACTS

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WAPCP-2026-PCL-038-V001

Attitude and Acceptance of COVID-19 Vaccine Amongst Pregnant and Breastfeeding Women Attending Clinics in Primary Healthcare Centers in Ibadan, Nigeria

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Background: COVID-19 infection in pregnant and breastfeeding women poses a high risk of severe illness and complications, and vaccines have been recommended after studies confirmed their safety in pregnancy and breastfeeding. Low COVID-19 vaccine acceptance has been reported in some African countries, becoming a significant concern.

Objectives: This study aimed to investigate the level of attitude and acceptance of the COVID-19 vaccine among pregnant and breastfeeding women attending selected primary healthcare centers in Ibadan, Nigeria, and to determine factors associated with COVID-19 vaccine hesitancy.

Methods: A cross-sectional survey involving 461 pregnant and breastfeeding women recruited using multistage random sampling. Data were collected via an adapted semi-structured interviewer-administered questionnaire across six primary healthcare centers in six local government areas within Ibadan metropolis.

Results: Majority (43.0 %) of respondents were aged 26-30 years, with 39.9 % having at least secondary education. Acceptance (83.9 %), awareness (74.4 %), attitude (50.3 %), and adherence to non-pharmacological COVID-19 prevention measures (79.6 %) were generally good. Most had received at least one vaccine dose, and half of the unvaccinated expressed willingness to accept it. Age ($p=0.021$) showed a significant association with vaccine hesitancy, while religion ($p=0.062$) and poor adherence to preventive measures ($p=0.139$) did not reach statistical significance at $p<0.05$.

Conclusion: Acceptance of COVID-19 vaccines among pregnant and breastfeeding women in Ibadan was encouraging, with good awareness and adherence to preventive measures. Hesitancy influenced by age highlights need for targeted health education and culturally sensitive interventions.

Keywords: COVID-19; COVID-19 vaccine; Pregnant women; Breastfeeding women; Ibadan

WAPCP-2026-PMB-014-V002

Assessing Antimicrobial Use amongst Outpatients at Kwahu Government Hospital, Atobie, Ghana

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Background: Monitoring antimicrobial use is essential to the fight against global antimicrobial resistance. This study assessed antimicrobial use amongst outpatients at Kwahu Government Hospital to guide stewardship activities.

Objectives: To assess the demographic characteristics of outpatients prescribed with antimicrobials for use, determine the percentage of antimicrobial use, assess the types of antimicrobial use, and evaluate the appropriateness of antimicrobial use in line with the Ghana Standard Treatment Guidelines and World Health Organization (WHO) "AWaRe" categorization of antimicrobial use.

Methods: A cross-sectional retrospective study was conducted. Systematic sampling was used to select 400 out of a total of 12,771 outpatient encounters with antimicrobial prescribed for use from January 2024 to December 2024. The results of 1,157 number of drugs prescribed for outpatients' encounters selected were assessed for antimicrobial use.

Results: Antimicrobials were used mainly for outpatients within the age groups 25-44 years (29.5 %), 0-14years (23.0 %), > 60years (16.8 %); females (67.0 %); students (26.3 %); and insured patients (87.0 %). The percentage antimicrobial use was 46.5 % per total number of drugs prescribed. Amoxicillin-

clavulanic acid (21.7 %) was the commonest type, followed by Cefuroxime (12.5 %) and Metronidazole (8.9 %). 86.0 % of antimicrobial use were appropriate while 14.0 % were inappropriate. 57.8 % (n=248) of antibiotic use were from WHO "Access" group, 39.2 % (n=168) from "Watch", and 3.0 % (n=13) from the "Not-recommended" group of antimicrobial use.

Conclusion: Antimicrobial use is high amongst outpatients at Kwahu Government Hospital with a significant proportion being inappropriate. This requires pragmatic measures by the Antimicrobial Stewardship committee to address this menace.

Keywords: Antimicrobial; Use; Outpatients; Kwahu Government Hospital; Antimicrobial stewardship

WAPCP-2026-PMB-035-V003

Knowledge, Attitude and Practice about Antibiotic Use Among Pharmacy Students in the University of Benin, Edo State, Nigeria

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Background: Antibiotics are vital for modern healthcare, but their efficacy is threatened by misuse and rising antimicrobial resistance. In Nigeria, issues like self-medication and poor adherence are prevalent. Pharmacy students are future gatekeepers of rational drug use, making their knowledge and habits critical indicators of future healthcare patterns.

Objectives: The study aimed to assess the level of knowledge regarding appropriate antibiotic use, evaluate attitudes and perceptions toward professional roles in guidance, and investigate common practices including self-medication and adherence among pharmacy students.

Methods: A descriptive cross-sectional study was conducted at the Faculty of Pharmacy, University of Benin. A structured, self-administered questionnaire was used to collect data from a stratified random sample of two hundred and sixty-seven students from 400 level to 600 level. Data were analyzed using descriptive and inferential statistics.

Results: Students demonstrated high theoretical knowledge, with 600 level students scoring significantly higher than lower levels. Positive attitudes were recorded regarding the pharmacist's role in stewardship. However, practice gaps persisted, as many participants reported self-medication and premature discontinuation of therapy. Regression analysis showed that attitude, rather than knowledge alone, was the primary predictor of appropriate practice.

Conclusion: While pharmacy students possess strong foundational knowledge, a gap remains between theoretical understanding and actual practice. Interventions should focus on shifting attitudes and improving clinical mentorship to bridge the divide between classroom learning and responsible antibiotic use.

Keywords: Antibiotics; Knowledge; Attitude and Practice; Pharmacy Students; Antimicrobial Resistance; Self-medication

WAPCP-2026-PHA-025-V004

Artemether Nanoparticles Generated by Antisolvent Precipitation Exhibit Superior Therapeutic Outcome Compared with the Unprocessed Drug: An in vivo Assessment in Mice

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Background: Artemether is a frontline drug taken orally, in combination therapy for the treatment of uncomplicated malaria but its therapeutic effect is affected by the poor solubility.

Objective: This study aimed to assess the improvement in the treatment outcome with artemether nanoparticles generated

by antisolvent precipitation.

Methods: Solubility of artemether powder in acetone, ethanol, dimethyl sulfoxide and dimethyl formamide was determined to identify its best solvent. Nanoparticles were generated using a 10 g quantity of artemether homogenized with 100 mL ethanol at 500 rpm for 45 min and then

precipitated with 500 mL purified water. The prepared nanoparticles in comparison with the unprocessed drug were evaluated for particle size, calorimetry and solubility. Antiplasmodial effects of the nanoparticles in comparison with the unprocessed drug, purified water and parenteral formulation were determined as well as the hosts' survival rates.

Results: Ethanol enabled the best drug dissolution, gave a yield of 96.5% nanodrug with Z-average of 54.83 nm. There was no significant difference in the thermograms of the two forms of the drug but the solubility increased from 526.73 to 1,885.48 mg/L. The percent suppression of parasitaemia for the unprocessed drug (52.01 %) and the nanoparticles (47.58 %)

were not significantly different. However, treatment with nanoparticles resulted in higher hosts' survival rate compared to treatment with unprocessed drug (80% versus 60%).

Conclusion: Nanoparticles of artemether showed better therapeutic outcome than its unprocessed form in malaria-infected animals providing a significant increase in their survival rate. The nanoparticles also showed higher drug solubility inhibiting parasites sequestering in the host's vital organs thus enabling better treatment outcomes.

Keywords: Artemether; Malaria; Nanoparticles; Precipitation; In-vivo assessment

WAPCP-2026-PMB-009-V005

Assessment of the Awareness, Attitude and Practice of Health Workers in the Federal Teaching Hospital, Lokoja, Nigeria Towards Lassa Fever

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Background: Lassa fever, an endemic arenavirus haemorrhagic infection transmitted by multimammate rats (*Mastomys natalensis*) is characterized with high endemicity, transmissibility, high case fatality hence potential severity. The prevention, control and outbreaks management is a huge challenge. It is a public health issue of concern in Nigeria.

Objectives: This study assessed the awareness, attitude and practice of health workers of the Federal Teaching Hospital Lokoja, Kogi State, Nigeria towards Lassa fever

Methods: A cross-sectional survey design study, using self-administered questionnaire that addressed issues on awareness, attitude and knowledge about Lassa fever was undertaken among the healthcare workers. Data collected were analyzed using frequencies, percentages, charts and the chi-square test of significance was set at $p \leq 0.05$.

Results: The respondent population (248) was majorly females (64.11 %). The respondents comprised Nurses (101;40.73 %),

Ward Attendants (91;36.79 %), Physicians (33;13.31 %), Pharmacists (8;3.22%), Medical Lab Scientists (8;3.22%), Record Officers (5;2 %) and Radiologists (2;0.8 %). All respondents are aware of Lassa fever. However, 98.4 % of the respondent population had knowledge of this health issue, 96 % had knowledge of disease infectiousness while 95 % and 76 % respectively indicated willingness to use personal protective equipment (PPE) and participate in the management of patients with the infection. Only 9% of the respondents (Physicians) paid out of pocket to be trained on management of the disease.

Conclusion: The awareness of Lassa Fever among the respondent population in this study site is high (98 %). Few (>2%) do not have adequate knowledge. Physicians displayed more proactiveness for capacity building than others. An institutional motivational policy for regular capacity building and improved attitudinal practice is desirable in FTH, Lokoja, Kogi State.

Keywords: Health Workers; Federal Teaching Hospital; Lokoja; Lassa fever; Knowledge, Attitude and Practices

WAPCP-2026-PHA-033-V006

Antioxidant Effects of Ethanolic Extract of *Acrostichum aureum* (Golden Leather Fern) Against Lead Acetate Induced Oxidative Damage in Albino Rats

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Background: *Acrostichum aureum* has been reported to protect experimental animals against lead acetate induced oxidative damage. Therefore, the plant may possess antioxidant properties

Objective: This study evaluated the antioxidant effects of ethanol extract of *Acrostichum aureum* in lead acetate induced oxidative damage.

Methods: Thirty male albino rats (mean weight 120 g) were divided into 5 groups of six rats each. Group 1 served as normal control (feed and water only), Group 2 was lead acetate control (100 mg/kg body weight), Group 3 was extract only (400 mg/kg body weight) while Groups 4 and 5 were lead acetate induced groups treated with 200 and 400 mg/kg body weight of the extract respectively. Treatment lasted for 28 days, after which the animals were sacrificed under mild ether anaesthesia. Blood samples were collected for antioxidant enzyme and lipid peroxidation assay.

Results: The results of the in vivo antioxidant activity showed a significant ($P < 0.05$) increase in catalase (2.00 ± 0.20 and 0.78 ± 0.02), glutathione peroxidase (56.30 ± 2.67 and 24.68 ± 0.95), reduced glutathione (4.52 ± 0.84 and 2.36 ± 0.51), superoxide dismutase (11.98 ± 0.65 and 5.06 ± 0.08) in Groups 4 and 5 than Group 2. There was a similar significant ($P < 0.05$) decrease in malondialdehyde (0.30 ± 0.01 and 0.77 ± 0.03). The results of the in vitro antioxidant activity showed a significant ($P < 0.05$) increase in the 2,2-diphenyl-1-picrylhydrazyl (DPPH) (96.12 ± 2.12 and 72.20 ± 1.10), ferric reducing antioxidant power (FRAP) (677.00 ± 12.36 and 356 ± 7.86) in groups 4 and 5 than Group 2.

Conclusion: These findings suggest that ethanol extract of *Acrostichum aureum* attenuated the effect of lead acetate induced oxidative stress. Therefore, the extract could be used in managing lead acetate induced oxidative damage.

Keywords: Antioxidants; *Acrostichum aureum*; Lead acetate; Oxidative damage

WAPCP-2026-PMB-019-V007

Comparative Analysis of the Impact of Antibiotic Prescribing and Use on Pediatric Patients at Regional and District Hospital Facilities in Ashanti Region

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Background: Inappropriate and excessive antibiotic use among pediatric patients is a major contributor to antimicrobial resistance, especially in resource-constrained health systems. However, facility-level evidence on prescribing patterns and stewardship realities in Ghanaian paediatric care remains limited.

Objectives: This study assessed the prevalence, patterns, and

clinical outcomes of antibiotic prescribing among pediatric patients, and examined healthcare provider perspectives on antibiotic use in two public hospitals in the Ashanti Region of Ghana.

Methods: A mixed-methods design combined retrospective quantitative record review with qualitative provider inquiry. Clinical data were systematically extracted from 640 pediatric

patient records across one regional and one district hospital. Variables included antibiotic exposure, drug types, therapy patterns, route of administration, guideline adherence, suspected resistance indicators, length of stay, and treatment outcomes. Descriptive and inferential statistics, including chi-square tests, t-tests, and logistic regression, were applied. Additionally, semi-structured questionnaires were administered to 30 purposively selected healthcare providers involved in pediatric care/management. Qualitative responses were analyzed thematically using structured coding procedures.

Results: Antibiotics were prescribed in 400 of 640 cases (62.5%), with higher prevalence at the district hospital. Prescribing was concentrated around Ampicillin-Gentamicin combinations and Ceftriaxone, with predominantly intravenous and combination therapy use. Guideline-adherent

prescribing was associated with better recovery and lower suspected resistance risk, while prolonged hospital stays predicted higher resistance likelihood. The 30 qualitative respondents were multidisciplinary and clinically experienced, enhancing response credibility; dominant themes included empiric prescribing, diagnostic limitations, resistance concerns, and stewardship gaps.

Conclusion: Paediatric antibiotic use was high and largely empiric, driven by diagnostic and system constraints. Strengthening context-sensitive antimicrobial stewardship is essential to improve outcomes and reduce resistance risk.

Keywords: Antibiotic use; Paediatric care; Antimicrobial resistance, Standard Treatment Guidelines (STGs); Healthcare provider perspectives

WAPCP-2026-PCL-010-V009

Effect of a Pharmacist-Led Educational Intervention on the Knowledge and Willingness to Practice Exclusive Breastfeeding: A Pre-Post Quasi-Experimental Study

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Background: Increasing the rate of exclusive breastfeeding (EBF) is a public health priority across the world. Promoting EBF has been identified as a strategic measure to achieve several sustainable development goals in low-and-middle-income-countries.

Objectives: To evaluate the effect of a pharmacist-led educational intervention on the knowledge and willingness to practice exclusive breastfeeding among pregnant women

Methods: It was a pre-post quasi-experimental study conducted among pregnant women receiving ante-natal care at two selected secondary healthcare facilities in Akwa Ibom State, Nigeria. A pre-intervention evaluation of participants' knowledge and willingness to practice EBF was conducted. This was followed by an on-site educational intervention implemented by a public health pharmacist. A post-interventional assessment of the participants' knowledge and willingness to practice EBF was then carried out four weeks after the educational intervention. Obtained data was analyzed using

the IBM SPSS computer package, version 25.0, with descriptive and inferential statistics used where applicable to evaluate the effect of the intervention. The level of statistical significance was set at $p < 0.05$.

Results: Two hundred and seventy-four women who met the eligibility criteria participated in the pre-intervention evaluation, however, only 249, who were successfully followed up, participated in the post-intervention evaluation. Our study showed a statistically significant difference in the mean knowledge of exclusive breastfeeding score pre- and post-intervention [(pre-intervention = 22.8723 ± 5.1918) versus (post-intervention = 25.9036 ± 4.3449); $t = -7.202$; $p < 0.001$].

Conclusion: The pharmacist-implemented educational intervention was effective in improving knowledge and willingness to practice EBF among the participants.

Keywords: Exclusive breastfeeding; Knowledge; Willingness; Pre-Post test; Practice

WAPCP-2026-PAD-021-V010

The Effects of Long Working Hours on the Mental Health of Hospital Pharmacists in Edo State

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Background: Hospital pharmacists in Nigeria often experience heavy workloads and prolonged working hours, which may predispose them to anxiety and other mental health challenges. While several studies have examined mental health among healthcare professionals, most Nigerian studies have focused on physicians and nurses, with limited research specifically addressing pharmacists, particularly in Edo State.

Objectives: To assess the prevalence of anxiety among hospital pharmacists in Edo State, examine its relationship with long working hours and workplace-related factors and assess work-life balance and job satisfaction.

Methods: A descriptive cross-sectional study was conducted among 250 hospital pharmacists selected using random sampling from seven public and private healthcare facilities in Edo State, Nigeria. Data was collected using a structured questionnaire containing the Generalized Anxiety Disorder-7 (GAD-7) scale. Descriptive statistics, Pearson correlation, and multivariate logistic regression were used for data analysis.

Results: The prevalence of moderate-to-severe anxiety was 24.4 %, while 75.6 % experienced minimal or mild anxiety. Long working hours were significantly associated with anxiety levels; however, the correlations were weak but statistically significant for both daily working hours ($r = 0.173$, $p = 0.006$) and weekly working hours ($r = 0.220$, $p < 0.001$). Demographic variables were not significant predictors of anxiety ($p > 0.05$). Additionally, 42 % reported poor or very poor work-life balance, 81.6 % perceived their job as stressful, and 20.4 % reported receiving adequate employer support.

Conclusion: Anxiety was observed among a notable proportion of hospital pharmacists in Edo State and showed a weak but significant association with long working hours. These findings highlight the need for institutional measures such as regulating working hours, improving staffing levels, and implementing workplace mental health support programs, including stress-management training and counseling services.

Keywords: Hospital pharmacists; Anxiety; Working hours; Mental health; Work-life balance

WAPCP-2026-PCH-008-V011

Comparative Quality Assessment of Ten Brands of Locally Manufactured and Imported Tablet Metformin Hydrochloride Marketed in Adamawa State, Nigeria

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Background: Diabetes is a chronic disorder caused by the body's inability to control blood sugar. Metformin is the most commonly prescribed drug of choice for diabetes and is sourced locally or imported. Despite the increase in local manufacturing capacity due to government and stakeholder efforts to boost local manufacture, drug importation still stands high at 70 %.

Objectives: The study comparatively assessed the critical quality features and determined the pharmaceutical equivalence of selected locally manufactured and imported Metformin Hydrochloride tablets.

Methods: 4 Samples each of locally manufactured and imported brands of Metformin Hydrochloride tablets

purchased using mystery-shopper approach in Yola, Adamawa state were analysed using British Pharmacopoeia 2015 to assess weight uniformity, friability, disintegration time, dissolution rate and assay of the content of the active ingredient.

Results: The brands analysed passed all the critical quality requirements according to British Pharmacopoeia 2015. The dissolution and disintegration rates observed had an average of 90.9 ± 4.34 % and 5.1 minutes (minimum requirements were 70% and <15 minutes) respectively. The assay for content revealed an average of 99.1 % (95-105 %). The average cost per tablet for the variants of locally manufactured and imported brands were N53.6 and N54.7 and a price difference of N1.1 indicated no statistically significant difference using student t-test.

Conclusion: The results suggested pharmaceutical equivalence between both local manufactured and imported brands of metformin and established a scientific basis for the promotion of locally manufactured brands of tablets

Metformin Hydrochloride in Yola, Adamawa state, Nigeria.

Keywords: Quality; Pharmacopoeial standards; Locally manufactured; Imported; Pharmaceutical equivalence

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Prevalence and Pattern of Childhood Cancers in a Tertiary Hospital in Northwestern Nigeria

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Background: Cancer remains a major cause of childhood morbidity and mortality worldwide, with increasing concern in low- and middle-income settings. Despite global efforts to strengthen pediatric oncology services, limited reporting of childhood cancer burden in resource-constrained countries continues to hinder effective planning and intervention.

Objectives: This study aimed to determine the prevalence and pattern of common childhood cancers among patients admitted to the paediatric unit of Aminu Kano Teaching Hospital, Nigeria.

Methods: A hospital based descriptive analytical study was conducted among paediatric admissions using a stratified sampling technique. Data was collected on demographic characteristics, cancer diagnosis, treatment compliance, and treatment completion. Descriptives and chi-square statistical analysis were performed using SPSS.20 to assess associations between demographic factors and treatment completion.

Results: The prevalence of childhood cancer among admitted patients was 13.4 %. Retinoblastoma was the most common

malignancy (34.0%), followed by chronic myeloid leukaemia (12.7%), Burkitt lymphoma, hepatocellular carcinoma, and rhabdomyosarcoma (8.5% each). Hodgkin lymphoma and leukaemia accounted for 6.4% each, while acute lymphoblastic leukaemia constituted 4.3 %. Other cancers, including nephroblastoma, neuroblastoma, and non-Hodgkin lymphoma, accounted for 2.2 %. Compliance with national standard pharmacotherapy was observed in 87.2 % of cases. Treatment completion was statistically significant associated with age ($\chi^2 = 25.534$, $p = 0.001$) and place of residence ($\chi^2 = 37.540$, $p < 0.001$), but not with gender ($\chi^2 = 3.164$, $p = 0.206$).

Conclusion: Childhood cancer constitutes a substantial proportion of paediatric admissions in this tertiary facility, with retinoblastoma remaining the predominant diagnosis. These findings highlight persistent disease patterns and emphasize the need for strengthened paediatric oncology services, improved surveillance, and targeted interventions in the region.

Keywords: Childhood cancers; Retinoblastoma; Prevalence; Nigeria: Low- and Middle-Income countries

WAPCP-2026-PHA-034-V013

Polypharmacy, Drug-Drug Interactions and Adverse Drug Reactions in Community Pharmacies: The Preventive Role of Pharmacists

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Background: Drug-Drug Interactions (DDIs) and Adverse Drug Reactions (ADRs) are major causes of medication-related harm from use of many drugs, particularly in community settings where patients often self-manage and combine medications, increasing the risk of unrecognized harm. Community pharmacists are integral to detecting potential DDIs, managing ADRs and providing patient counseling. However, the

effectiveness of these interventions depends on accurate ADR reporting and patients' awareness of the pharmacists' role in medication safety.

Objectives: The study assessed prevalence of polypharmacy, potential DDIs, reported ADRs and associated factors as well as patients' awareness of pharmacists' roles.

Methods: A cross-sectional observational study was conducted in five community pharmacies in Gwagwalada Area council, F.C.T, Nigeria. A total of 102 patients were consecutively recruited with informed consent. Data were collected using a structured questionnaire aligned with the study objectives.

Using Medscape drug interactions checker, possible DDIs were identified. Data were analyzed using descriptive statistics and chi square tests in Microsoft excel with statistical significance set at $p < 0.05$.

Results: Among study participants, DDIs occurred in 8.82%, more common among those on multiple drugs. ADRs occurred in 42.16 % of participants, however, only 30.39 % reported.

The number of drugs and ADR experience were not significantly associated ($p > 0.05$). However, ADR experience was significantly associated with reporting behavior ($p < 0.05$) and reporting behavior was significantly associated with patients' confidence in pharmacists ($p < 0.05$).

Conclusion: Pharmacists are pivotal in preventing DDIs, monitoring ADRs and enhancing patient's confidence. However, patients' safety requires collaboration between healthcare professionals and patients to achieve optimal therapeutic outcomes.

Keywords: Drug-Drug Interactions; Adverse Drug Reactions; Patient perception; Pharmacists role; Medication safety.

WAPCP-2026-PCG-011-V014

Concurrent Use of Herbal and Prescribed Medicines and Associated Factors among Older Patients with Chronic Diseases in Secondary Healthcare Facilities in Ogun State, Nigeria

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Background: Herbal medicine is a vital healthcare resource in many resource-limited countries, including Nigeria. Evidence suggests that older patients on prescribed orthodox medications may also be using herbal medicines. However, the extent of concurrent use of herbal and prescribed medicines among older patients in Nigeria is unknown.

Objectives: This study explored the prevalence of concurrent use of herbal and prescribed medicines among older patients with chronic diseases in Ogun State, Nigeria.

Methods: This was a cross-sectional survey using a 16-item validated questionnaire among purposively sampled ambulatory older patients aged ≥ 60 years, who had been on at least one chronic medication in 6 months preceding the study. The study was conducted at two secondary healthcare facilities in Ogun State, Southwest Nigeria. The structured questionnaire explored the participants' socio-demographic, use and experience with herbal medicines, reasons for concurrent use

of herbal and prescribed medicines, and non-disclosure of concurrent use to physicians.

Results: Of the 361 participants, two hundred and seventy-one of the participants (75.1 %) were aged 60 - 69 years, 246 (68.1%) had used herbs with prescribed medications concurrently and 330 (91.4 %) did not experience adverse effects after the use. The majority of the participants (279; 77.3%) did not inform the doctor about the concurrent use of herbal and prescribed medicines.

Conclusion: Concurrent use of herbal and prescribed medicines is rife among older patients with chronic diseases. However, the adverse effect from such use is not pronounced. The level of participants' disclosure of concurrent herbal and prescribed medicines use to doctors is low.

Keywords: Herbal medicine; Prescribed medicine; Older patients; Disclosure; Nigeria

WAPCP-2026-PCT-026-V015

Preparation and Stability Evaluation of Furosemide Oral Liquid Formulation Compounded from Tablets and Active Pharmaceutical Ingredient for Paediatric Use

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Background: Furosemide oral liquid preparations are essential for paediatric patients requiring individualized dosing; however, commercially manufactured formulations are not readily available in Ghana. Compounding therefore remains relevant.

Objectives: This study evaluated the physical, chemical, and microbiological stability of compounded furosemide oral liquid formulations prepared from tablets and active pharmaceutical ingredients for paediatric use.

Methods: Oral suspensions were compounded from tablets whilst oral solutions were compounded from active pharmaceutical ingredients. The assessment was done over a period of six months and four weeks for oral solution and tablet suspension, respectively. The formulations were assessed under controlled storage conditions of 25-30 °C and 2-8 °C. Stability was evaluated at 40 °C/75 % humidity through

systematic monitoring of physical characteristics and microbiological quality. The quantitative assay was done using high performance liquid chromatography.

Results: The compounded oral solution and tablet suspension maintained acceptable physical appearance and microbiological quality. The percentage content did not vary by more than 10 % of the initial content. For oral solution stored at 25-30 °C with daily opening or in sealed bottles, the preparation was stable for 20 weeks and 6 months respectively. Tablet suspension was stable at 4 weeks whether in sealed amber bottles or with daily opening at 2-8 °C.

Conclusion: Compounded furosemide oral liquid formulations can provide a stable and practical therapeutic option in settings where commercial paediatric products are unavailable.

Keywords: Furosemide; Compounding; Paediatric formulation; Oral liquid; Stability

WAPCP-2026-PCH-045-V016

Quality Assessment of Some Brands of Sachet Water Marketed within Katsina Metropolis.

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Background: Access to clean and safe drinking water is a fundamental human right essential to public health. In Nigeria, increasing dependence on sachet drinking water resulting from urban growth and inadequate public water supply has raised concerns about their quality and safety.

Objectives: This study aimed to evaluate the physicochemical and microbiological quality of selected sachet water brands marketed within Katsina metropolis.

Methods: Stratified random sampling was used to select twelve sachet water brands from twelve wards in Katsina metropolis. Potassium concentration was determined using atomic absorption spectrophotometry after acid digestion, chloride was analyzed by argentometric titration using the Mohr method while fluoride, phosphate, and nitrate were measured using spectrophotometric colorimetric techniques. Microbiological quality was assessed by determining total coliform count using the multiple tube fermentation method.

Results: All samples were clear without objectionable odor. Physicochemical parameters were generally within acceptable

limits. Chloride ranged from 23.38 to 177.66 milligrams/L with a mean of 100.2 ±52.3 milligrams/L. Potassium concentrations were low, ranging from 1.28 to 3.29 milligrams/L. Nitrate and fluoride levels varied from 3.16 to 44.42 milligrams/L and 0.10 to 0.25 milligrams/L respectively. Phosphate ranged from 0.13 to 0.60 milligrams/L with one sample exceeding recommended limit. Microbiological analysis showed coliform counts of 2 to 4 MPN/100mL, with 58.3% of samples exceeding the recommended 0 MPN/100mL standard. This indicates variability in microbial quality and suggests possible contamination during production or handling.

Conclusion: The physicochemical parameters of most sachet water brands examined were within acceptable limits, with chloride, nitrate, and fluoride complying with standards, while one sample showed elevated phosphate. Microbiological analysis revealed coliform counts exceeding the recommended limit in many sachets, indicating potential contamination and the need for improved quality control.

Keywords: Sachet water; Drinking water quality; Public health; Katsina metropolis; Water safety