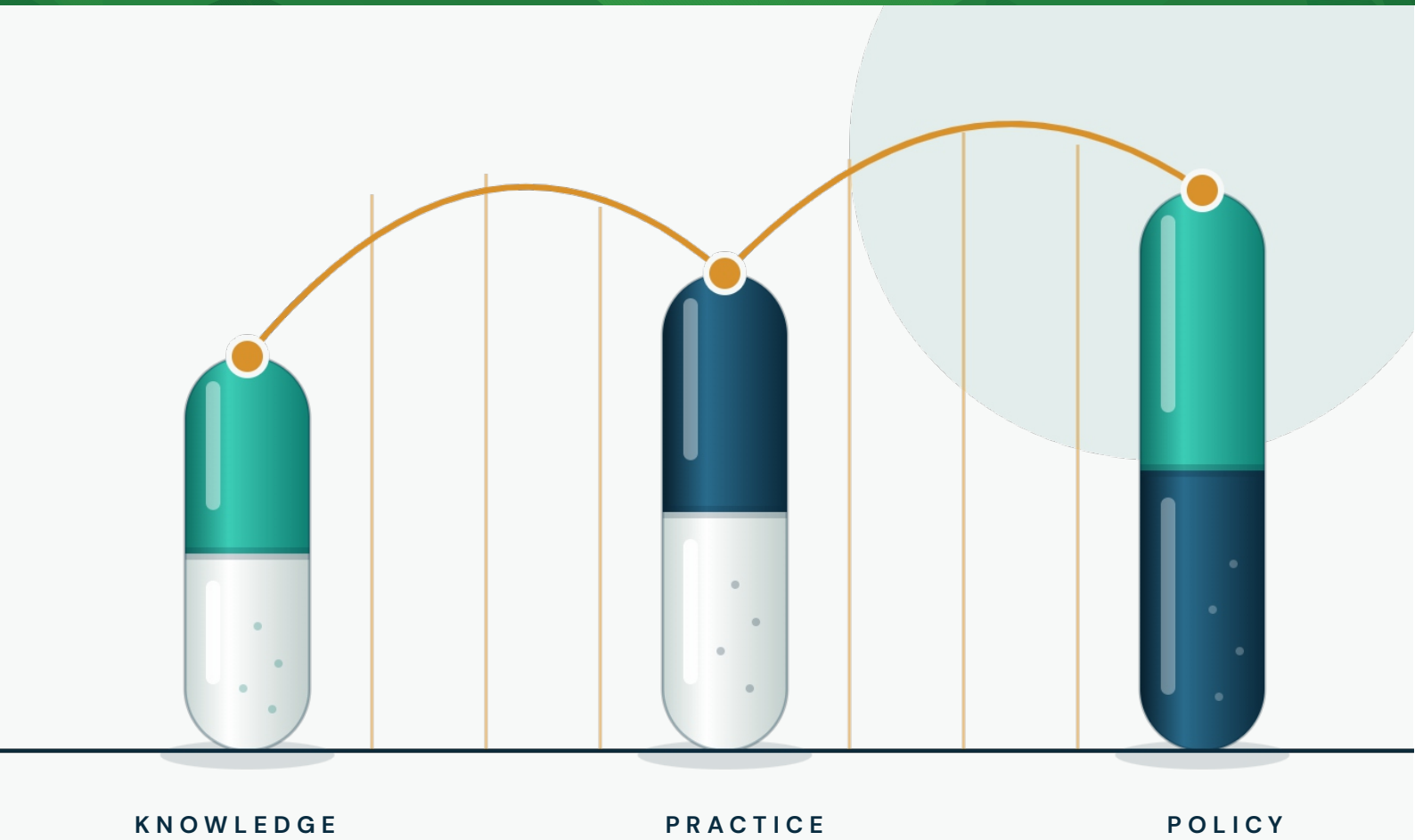
AS MEN OF HONOUR
WE JOIN HANDS

pISSN 0331 - 670X
eISSN 9876 - 5432

The Nigerian Journal of Pharmacy

THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA | FOUNDED 1927 | VOL. 60, ISSUE. 2, 2026



Bridging Knowledge, Practice and Policy for National Impact

BOOK OF ABSTRACTS 2026

FROM THE
EDITORS DESK

The Nigerian Journal of Pharmacy is a publication of the Pharmaceutical Society of Nigeria which publishes original research papers, critical reviews, systematic reviews, and short communications in all areas of Pharmacy Practice. The Nigerian Journal of Pharmacy eISSN approved number 9876-5432 obtained from the National Library of Nigeria. The Journal is indexed in the prestigious Asian Science Scientific index ASCI-Database https://www.ascidatabase.com/masterjournallist.php?v=1388 in addition to being indexed by Google scholar and CrossRef®.

This year World Pharmacy Day 2026 theme is: "Empowering pharmacists for healthier futures" – as announced by FIP. Empowerment, as FIP President Paul Sinclair notes, means **competencies**, **recognition** and **enabling environments** to meet evolving health needs. The Federal Government's statement on this year's World Pharmacy Day to expand pharmacy practice beyond dispensing to primary healthcare, prevention, immunization and e-pharmacy traceability is a welcome development. However, policy must be backed by implementation - PCN Act 2022 must be fully funded, and efforts must be put in place for improvement in remuneration of pharmacists and retention strategies against brain drain. Empowering pharmacists is investing in health system resilience.

The theme for the 99th Annual National Conference of the Pharmaceutical Society of Nigeria tagged "IJELE 2026" is "One Health, One Pharmacy: Bridging Knowledge, Practice and Policy for National Impact" - is a domestication of FIP's global theme "Empowering pharmacists for healthier futures." There is need for "Bridging Knowledge to Practice: Knowledge without translation is academic"; "Bridging Practice to Policy: Practice without policy is vulnerable". Therefore, policy must empower practice to act within full competence.

PSN IJELE Poster presentation: Twenty-six (26) abstracts are presented for poster presentation after they were reviewed by the experts in the various areas of Pharmacy.

The editorial board would like to express its gratitude to all the authors and reviewers who have contributed to and supported the journal thus far.

Best regards,

Prof. Moses A. Akanmu,
B.Pharm, MSc (Ife); PhD (Tokyo), M.Phil. (Stellenbosch) FNAPharm., FWASP., FPSN
Editor-in-Chief

LIST OF ABSTRACTS SUBMITTED FOR
THE 99TH ANNUAL NATIONAL CONFERENCE OF THE
PHARMACEUTICAL SOCIETY OF NIGERIA
2ND -7TH NOVEMBER 2026 TO BE HELD AT AWKA, ANAMBRA STATE

S/No	Abstract No.	Presenting Author	Authors	Title
1	PSNPIJELE26_001	Orakwe J.C.	Orakwe JC, Abba CC, Ngwoke KG.	Preliminary Metabolomics Profiling of *Aspilia africana* Leaves Targeting Bioactive Compounds with Anti-Inflammatory Properties
2	PSNPIJELE26_002	Adekunle Idowu Fader	Adekunle Idowu Fader	The Integration of Screening, Brief Intervention and Referral to Treatment (SBIRT) into the Community Pharmacy Workflow: A Pilot Study in Oyo State, Nigeria
3	PSNPIJELE26_003	Ahmed, A	Ahmed A., Adegbite Z., Awe C., Ashimi S., Ironondu JE., Aniugwu C., Anyaji UL., Dolapo OS., Madueke VC., Chinecherem AE., Adesanya O., Iwuji C., Jimoh M	Implementation of Ambulatory Continuous-Infusion Chemotherapy Using Elastomeric Infusion Pumps at a Nigerian Oncology Center: A Retrospective Service Evaluation
4	PSNPIJELE26_004	Ogudu U	Ogudu U., Balogun P., Kanu K.C., Adesoji; Rochas; Alli M	Prescribing Pattern of Psychotropic Medications among Psychiatric Outpatients Receiving Continuing Care after Rehabilitation: A Retrospective Cross-Sectional Study
5	PSNPIJELE26_005	Ogudu U	Ogudu U., Balogun P., Kanu K.C., Adesoji; Rochas; Alli M	Prescribing Pattern of Long-Acting Injectable Antipsychotics among Psychiatric Outpatients Receiving Care after Rehabilitation: A Retrospective Cross-Sectional Study
6	PSNPIJELE26_006	Awofisayo SO	Awofisayo SO, Jonathan NA., Pius NS., Enyiekere VJ	Mini-Laboratory Medicine Quality Screening at Drug-Holding Premises in Akwa Ibom State: A Pilot Study
7	PSNPIJELE26_007	Chibuoke OM	Amorha KC., Chibuoke OM	Knowledge and Practice of Breast Self-Examination (BSE) Among Female Undergraduate Students of the University of Nigeria, Nsukka: A Cross-sectional Study
8	PSNPIJELE26_008	Oladoja Awofisayo	Oladoja Awofisayo, Elisha Mfonma, Joseph Oyong	*In Silico* Evaluation of the Antibacterial Properties of Acyl hydrazones derivatives of selected aromatic aldehydes
9	PSNPIJELE26_009	Nafisatu M	Nafisatu M., Michael A.,, Yahkub M.	Adherence to Iron and Folic Acid Supplementation and Associated Factors among Pregnant Women Attending Antenatal Care in Bauchi, North-Eastern Nigeria

10	PSNPIJELE26_010	Mbata IC	Mbata IC	The Spatial Distribution of Pharmaceutical Start-ups in Africa: An Analysis of Innovation Clusters and Policy Drivers
11	PSNPIJELE26_011	Meko OA	Meko OA., Arhewoh MI	The Survey on Patients Preference of Dosage Form
12	PSNPIJELE26_012	Umeh BI	Obasi JC., Onyechi KK., Ike C., Umeh BI., Esimone CO., Emeje M	In *Vivo* Antibacterial and Prophylactic Efficacy of Hydro-Alcoholic Leaf Extract of *Alchornea cordifolia* Against Experimental *Staphylococcus aureus* and *Escherichia coli* Infections in Wistar Rats
13	PSNPIJELE26_013	Dzever JI	Odihi CO., Akpa J., Abula F, Ikyon A., Num AJ., Shambe DN., Dzever JI., Onuh E	Seroprevalence Of Hepatitis B Surface Antigen (HBsAg) and Knowledge of Hepatitis B Among Cleaners and Porters at a Tertiary Hospital in Nigeria.
14	PSNPIJELE26_014	Omojuyigbe JO	Omojuyigbe JO., Waris O Taiwo, Timothy T Orimolade	Physiologically Based Pharmacokinetic Modelling in Celiac Disease: Current Landscape and Opportunities for Model-Informed Drug Development
15	PSNPIJELE26_015	Ojiakor JE	Ojiakor JE	*In-Silico* Antihelminthic Evaluation of Phytochemicals and Comparative *In-Vitro* Analysis of Solvent Leaf Extracts of *Anthocleista djalonensis*
16	PSNPIJELE26_016	Okoronkwo NA	Okoronkwo NA	Socio-Economic Burden of Non-Communicable Diseases Among Households In Obio/Akpor Local Government Area, Rivers State, Nigeria
17	PSNPIJELE26_017	Ezemejor CN	Ali PP., Shedul GJ., Okpe I., Ugwuneji U, Ezemejor CN, Ojji DB	Beyond Dispensing: The Role of Pharmacy in Advancing Cardiovascular Research and Clinical Trials in a Nigerian Tertiary Healthcare Setting
18	PSNPIJELE26_018	Ayanniyi RO	Ayanniyi RO., Peter S., Agenyi EU	Evaluation of Safety Profile and Gastro-protective Activity of a Herbal Product in Albino Rats
19	PSNPIJELE26_019	Abdullahi ST	Abdullahi ST., Busari MF., Eniayewu OI, Bamidele OD, Sanusi A, Madaki FM, Njinga NS., Bakare-Odunola MT	Spectrophotometric Analysis for the Concurrent Estimation of Ofloxacin and Tinidazole in Co-Formulated Tablets
20	PSNPIJELE26_020	Akinmeji OS	Adedoyin A., Turner O., Okosun A., Salisu W., Akinmeji OS., Aniemeka K., Adesina A., Okeneye M., Ajijelek A., Zekeri D., Uthman I., Umanna C	Virological Outcomes Following Transition to Dolutegravir-Based Regimens among Children Living With HIV at Massey Street Children's Hospital, Lagos, Nigeria
21	PSNPIJELE26_021	Edeani C	Edeani C., Udem ND., Ezichi L.	Formulation and Evaluation of Minocycline Antibacterial Creams from Minocycline Capsules
22	PSNPIJELE26_022	Udem ND	Udem ND., Okenwa SC., Eze T., Chukwura Uju	Quality Assessment of Telmisartan Tablet Brands Marketed in Enugu State, Nigeria

23	PSNPIJELE26_023	Ologunagba MO	Ologunagba MO., Ajibowo OT., Ayoola GA., Adeluola AO., Adeyemi DK., Johnson OO., Abdulrahman U	Comparative Assessment of The Antimicrobial Profiles of Emulgels Loaded with Different Concentrations of *Spondias mombin* leaf extract against Some Multidrug Antimicrobial Resistant Clinical Bacterial Strains.
24	PSNPIJELE26_024	Ologunagba MO	Ologunagba MO., Muotoe IP.,, Ayoola GA., Adeluola AO., Adeyemi DK., Johnson OO., Abdulrahman U	Antimicrobial Activity of *Terminalia ivorensis* Leaf Extract-Loaded Emulgel against Multidrug-Resistant Clinical Bacterial Isolates
25	PSNPIJELE26_025	Alemika EB	Idris BP., Ameh AN., Ibrahim A., Alemika-Bonire E., Salihu SI., Adamu I., Ajuji N., Mohammad M., Gada MH., Murtala S., Igashi D., Efunsayo R., Suleiman M., Abdulraheem A., Umar AI., Abdullahi H., Francis G.	Optimizing ICU Antibiotic Use: Linking Antibiotic Utilization with Resistance Patterns in a Nigerian Tertiary Hospital
26	PSNPIJELE26_026	Aliyu Masaud Idris	Aliyu Masaud Idris, Khadija Abdulaziz Aliyu, Abubakar Muhammad Usman	Evaluation of the Toxicity and Anti-Lithiasis Effect of the Methanolic Extract of *Phyllanthus amarus* in Wistar Rats

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 001

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Preliminary Metabolomics Profiling of *Aspilia africana* Leaves Targeting Bioactive Compounds with Anti-Inflammatory Properties

Orakwe, J.C.[1*], Abba, C.C.[2], Ngwoke, K.G.[2]

[1]Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmaceutical Sciences, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State, Nigeria.
[2]Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Corresponding author: julietmuoegbunam@gmail.com, +2348100091164

ABSTRACT

Background and Purpose: Inflammation underlies several chronic diseases. Unfortunately, the majority of available anti-inflammatory agents have been reported to produce significant adverse effects with prolonged use. *Aspilia africana* is traditionally used in African communities for inflammatory conditions. This work is a metabolomic profiling of the extract and fractions of *A. africana* leaves with the purpose of identifying the anti-inflammatory constituents.
Methods: *A. africana* leaves were extracted with methanol:dichloromethane (2:1), and the crude extract was partitioned into n-hexane, ethyl acetate, butanol and aqueous fractions. Acute toxicity assessment and phytochemical screening were performed. Anti-inflammatory activity was evaluated using carrageenan-induced peritonitis, acetic acid-induced vascular permeability and xylene-induced ear oedema in mice, together with heat- and hypotonicity-induced haemolysis and protein denaturation assays. Active fractions were subjected to vacuum liquid chromatography (VLC) and gel-filtration chromatography, followed by HPLC profiling for metabolite characterization.
Results: The crude extract showed a favourable acute toxicity profile. Glycosides and saponins were detected across all fractions, while flavonoids, tannins and steroids showed differential distribution. The crude extract significantly inhibited leukocyte migration by 15.89% and 25.85% at 100 and 200 mg/kg, respectively, and reduced vascular permeability by 22.73% and 34.03%. The aqueous fraction showed the highest activity in the xylene-induced oedema model, with 42.14% and 69.23% inhibition at 3 and 6 mg/mL, respectively. Selected VLC fractions also demonstrated dose-dependent anti-inflammatory activity. HPLC profiling identified metabolites including ellagic acid, zeaxanthin, quercetin and eugenol.
Conclusions and Implications: *A. africana* demonstrated anti-inflammatory activity and contains bioactive metabolites, supporting its ethno-medicinal use and potential as a source of anti-inflammatory lead compounds. Further investigation of the identified constituents may facilitate the development of novel anti-inflammatory leads.

Keywords: *Aspilia africana*; Metabolomics; Anti-inflammatory; Bioactive compounds; Natural products; Phytochemicals.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 002

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

The Integration of Screening, Brief Intervention and Referral to Treatment (SBIRT) into the Community Pharmacy Workflow: A Pilot Study in Oyo State, Nigeria.

Adekunle, Idowu Faderemi

Living Faith Pharmacy, Oyo, Oyo State.

Email: faderemiadekunle@gmail.com

ABSTRACT

Background: Substance use remains a major public health challenge in Nigeria, with southwestern states, including Oyo State, recording some of the highest regional prevalence rates in the country. While specialised treatment services such as the Drug Addiction Treatment, Education and Research (DATER) Unit provide essential care, they are few, centrally located, and typically reached only after substance use has escalated to a crisis. Community pharmacies, by contrast, are widely distributed and routinely visited, positioning them as an underused point of contact for early identification of at-risk substance use. This study piloted the integration of Screening, Brief Intervention and Referral to Treatment (SBIRT) into the routine workflow of selected community pharmacies in Oyo State, using the World Health Organization Alcohol, Smoking and Substance Involvement Screening Test (WHO ASSIST) as the screening instrument.

Methods: A cross-sectional pilot design was adopted. The WHO ASSIST was administered to 113 adult patrons across the selected pharmacies, capturing lifetime and past-three-month involvement with ten substance classes. Data were analysed using IBM SPSS Statistics, Version 32. Descriptive statistics, including frequencies and percentages, were used to summarise participants' substance use patterns and ASSIST risk categories. The WHO ASSIST scoring algorithm was applied to classify participants according to their substance-specific risk levels. Fisher's exact test was used to examine associations between alcohol risk and tobacco risk, and between alcohol risk and marijuana risk. Statistical significance was set at $p < 0.05$.

Results: These showed that alcohol (3.5%), inhalants (2.7%), tobacco, marijuana, opioids, and other drugs (0.9% each) recorded the highest lifetime use. Applying the ASSIST risk cut-offs, 100 (88.5%) of patrons () screened as low risk across all substances, while 13 (11.5%) were flagged at moderate risk on at least one substance and would be eligible for pharmacist-delivered brief intervention under the SBIRT model; no patron screened as high risk. Marijuana (8.8%), tobacco (8.0%), and alcohol (6.2%) showed the highest moderate-risk involvement. Alcohol risk was significantly associated with both tobacco risk (Fisher's exact $p = 0.0006$) and marijuana risk ($p < 0.0001$), indicating a pattern of co-occurring, polysubstance risk among the at-risk subgroup.

Conclusion: The findings indicate that integrating WHO ASSIST-based screening into community pharmacy workflow can help identify patrons at moderate risk of substance use who may benefit from pharmacist-delivered brief intervention.Further work incorporating pharmacist readiness, feasibility, acceptability, and referral-uptake data is recommended to fully evaluate the protocol's implementation.

Keywords: SBIRT, WHO ASSIST, community pharmacy, substance use screening, brief intervention, referral to treatment, Oyo State, Nigeria

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 003

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Implementation of Ambulatory Continuous-Infusion Chemotherapy Using Elastomeric Infusion Pumps at a Nigerian Oncology Center: A Retrospective Service Evaluation

Ahmed, A.[1*], Adegbite, Z.[1], Awe, C.[1], Ashimi, S.[1], Ironondu, J.E.[1], Aniugwu, C.[1], Anyaji, U.L.[1], Oyemitan, D.S.[1], Madueke, V.C.[1], Chinecherem, A.E.[1], Adesanya, O.[1], Iwuji, C.[1], Jimoh, M.[1,2]

[1]Department of Oncology, Lakeshore Cancer Center, Lagos, Nigeria
[2]Radiation Oncology Department, College of Medicine, University of Ibadan, Ibadan, Nigeria

Corresponding author: adewaleahmed7@gmail.com

ABSTRACT

Background and purpose: Continuous-infusion 5-fluorouracil (5-FU) supports regimens such as FOLFOX, FOLFIRI, and FOLFIRINOX but requires extended inpatient infusion, which can strain healthcare resources. Elastomeric pumps enable outpatient delivery, but documentation of their use in Sub-Saharan Africa remains limited. This study assessed the implementation and use of elastomeric pump chemotherapy at a Nigerian cancer center.

Methods: A retrospective service evaluation was conducted of all adult (≥18 years) oncology patients who received continuous-infusion 5-FU via elastomeric pump between January 2021 and December 2025. Patients with incomplete records were excluded. Data on patient characteristics, diagnosis, treatment intent, regimen, pump parameters, cycle utilization, patient education, and follow-up were extracted and analyzed descriptively, with annual utilization examined to assess service adoption over time.

Results: 57 patients received 558 ambulatory cycles. Mean age was 61.1 ± 10.6 years; 54.4% were male. Cancer types were colon, 21 (36.8%); colorectal, 15 (26.3%); pancreatic, 10 (17.5%); gastric, 8 (14.0%); and other, 3 (5.3%). FOLFOX predominated 36 (63.2%), followed by FOLFIRI 12 (21.1%), FOLFIRINOX 8 (14.0%), and FLOT 1 (1.8%). Care pathways were highly standardized: all patients received continuous-infusion 5-FU, 86.0% at a 2400mg/m2 dose, nearly all via 100mL pumps delivered over 46 hours (98.2%). No patients received radiotherapy concurrently with chemotherapy. Patients received a mean of 9.8 + 5.1 cycles. Utilization rose steadily from 2 patients (24 cycles) in 2021 to 21 patients (174 cycles) in 2025. Both verbal and written education was documented in 98.2% of patients, 98.2% returned for pump disconnection, and follow-up documentation was complete for all patients.

Conclusions and implications: Ambulatory elastomeric pump chemotherapy was successfully introduced in this resource-limited Nigerian setting, with standardized procedures, comprehensive patient education, follow-up, and increasing use. These findings support the feasibility and potential to expand outpatient chemotherapy in low-resource settings. Prospective evaluation, patient-reported outcomes and economic analysis are recommended

Keywords: Ambulatory chemotherapy; Elastomeric infusion pump; Continuous-infusion 5-fluorouracil; FOLFOX; Resource-limited settings; Service evaluation; Nigeria

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 004

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Prescribing Patterns of Psychotropic Medications Among Psychiatric Outpatients Receiving Continuing Care After Rehabilitation in Lagos, Nigeria. A Retrospective Cross - Sectional Study

Ogudu U*., Balogun P., Kanu K.C., Adesoji Rochas, Alli M.

Pharmacy Department, General Hospital Ikorodu, Lagos, Nigeria

***Corresponding author:** ugochiogudu87@gmail.com; ugochiogudu@yahoo.co.uk
+2348030536223

ABSTRACT

Background: Rational psychotropic prescribing is essential for the long-term management of psychiatric disorders, particularly among patients transitioning from residential rehabilitation to outpatient continuing care. Evaluating prescribing patterns can identify areas requiring medication review and improved pharmaceutical care.
Objective: To evaluate the prescribing patterns of psychotropic medications and the distribution of antipsychotic medicines per prescription among psychiatric outpatients receiving continuing care after rehabilitation in Lagos, Nigeria.
Methods: A retrospective cross-sectional study was conducted using 383 prescription records collected from Lagos State Rehabilitation and Training Centre, Majidun, Lagos State, Nigeria, covering April 2025 to June 2026. Data extracted included demographic characteristics, recorded diagnoses, prescribed medicines, antipsychotic combinations, and documented extrapyramidal side effects (EPSE). Descriptive statistics were used.
Results: The records comprised 194 males (50.7%) and 189 females (49.3%), aged 17–60 years. Schizophrenia was recorded in 227 patients (59.3%), drug-use disorder in 98 (25.6%), anxiety disorder in 23 (6.0%), depression in 16 (4.2%), and other diagnoses in 19 (5.0%). Olanzapine was recorded in 206 prescriptions (53.8%), chlorpromazine in 173 (45.2%), fluphenazine injection in 160 (41.8%), flupentixol injection in 125 (32.6%), haloperidol in 112 (29.2%), and carbamazepine in 100 (26.1%). All records contained at least one antipsychotic. Two or more antipsychotics were recorded in 337 prescriptions (88.0%), while three or more were recorded in 217 (56.7%). EPSE were documented in 60 patients (15.7%).
Conclusion: Antipsychotic combination prescribing was frequent in this population. Regular medication review, assessment of treatment rationale, and monitoring for adverse effects are warranted.

Keywords: Psychotropic medicines; antipsychotics; prescribing patterns; antipsychotic combinations; psychiatric rehabilitation; pharmaceutical care.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 005

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Prescribing Pattern of Long-Acting Injectable Antipsychotics among Psychiatric Outpatients Receiving Care after Rehabilitation: A Retrospective Cross-Sectional Study

Ogudu U*., Balogun P., Kanu K.C., Adesoji Rochas, Alli M.

Pharmacy Department, General Hospital Ikorodu, Lagos, Nigeria

***Corresponding author:** ugochiogudu87@gmail.com; ugochiogudu@yahoo.co.uk
+2348030536223

ABSTRACT

Background: Long-acting injectable (LAI) antipsychotics are used in the maintenance treatment of selected patients with psychiatric disorders. Understanding their prescribing patterns in rehabilitation-to-community care can inform medication monitoring and pharmaceutical care.
Objective: To describe the prescribing patterns, recorded doses, and administration frequency of LAI antipsychotics among psychiatric outpatients receiving continuing care after rehabilitation in Lagos, Nigeria.
Methods: A retrospective cross-sectional review was conducted of 383 prescription records collected from Lagos State Rehabilitation and Training Centre, Majidun, Lagos State, Nigeria, covering April 2025 to June 2026. Data extracted included patient demographics, LAI preparations, recorded doses, administration frequency, and treatment duration. Descriptive statistics were used.
Results: The sample comprised 194 males (50.7%) and 189 females (49.3%), aged 17–60 years. Fluphenazine injection (Modecate) was recorded in 160 prescriptions (41.8%), with doses of 12.5, 25, 37.5, or 50 mg. Flupentixol injection (Depixol) was recorded in 125 prescriptions (32.6%), at doses of 20, 40, or 60 mg. Zuclopenthixol injection (Clopixol) was recorded in 16 prescriptions (4.2%), at 200 mg. These medicine-specific frequencies may overlap and should not be interpreted as mutually exclusive patient groups. The recorded administration frequency was monthly, and treatment generally continued for at least one year. Monthly clinic attendance was documented.
Conclusion: Fluphenazine and flupentixol injections were the most frequently recorded LAI preparations. Periodic review of prescribing appropriateness, doses, adverse effects, treatment duration, and ongoing clinical need is recommended to support safe continuing care.

Keywords: Long-acting injectable antipsychotics; fluphenazine; flupentixol; zuclopenthixol; prescribing patterns; psychiatric rehabilitation; pharmaceutical care.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 006

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Mini-Laboratory Medicine Quality Screening at Drug-Holding Premises in Akwa Ibom State: A Pilot Study

Awofisayo SO[*1], Jonathan NA[2], Pius NS[3], Enyiekere Vj[4]

[1]Department of Clinical Pharmacy and Biopharmacy, Faculty of Pharmacy, University of Uyo, Nigeria
[2]Pharmacy Unit, Medical Centre, University of Nigeria, Enugu Campus, Nigeria
[3]Department of Pharmacy, Professor Kelsey Harrison Hospital, Rivers State Hospitals Management Board, Rivers State
[4]Jovim Pharmacy, Ukana Offot, Uyo, Akwa-Ibom State, Nigeria

***Corresponding author:**bioscird69@gmail.com

ABSTRACT

Background: Substandard and falsified medicines pose significant risks to effective pharmacotherapy, including therapeutic failure, adverse outcomes, increased healthcare costs and antimicrobial resistance. Decentralized screening at drug-holding premises may support earlier identification of suspect medicines.

Objective: To assess the occurrence of suspect medicines and evaluate the feasibility and relevance of mini-laboratory screening at selected drug-holding premises across the three senatorial districts of Akwa Ibom State, Nigeria.

Methods: A multicentre cross-sectional pilot study was conducted among selected drug-holding premises. Selected analgesics, antibiotics, antidiabetic and antihypertensive medicines were assessed using visual inspection, basic physical/pharmaceutical screening and thin-layer chromatography (TLC), where applicable. Findings were categorized as apparently satisfactory, suspect, or requiring confirmatory laboratory analysis. Premises were also assessed for workspace, personnel, equipment and other requirements for decentralized screening. Descriptive and inferential statistics were used for data analysis.

Results: Medicine samples with varying abnormalities were identified. Visual inspection provided preliminary information on packaging, labeling and physical characteristics, while basic tests and TLC provided additional screening information. Suspect findings occurred across therapeutic categories, supporting a systematic multistage screening approach. Differences in screening findings and premises readiness were observed across study locations. A **Mini-Laboratory Need and Readiness Score** was developed based on medicine-risk burden, screening findings, premises readiness, public-health relevance and operational feasibility.

Conclusion: Decentralized preliminary medicine-quality screening has potential value in strengthening medicine-quality surveillance. A regulated mini-laboratory model could complement existing regulatory systems by facilitating earlier identification and referral of suspect medicines. Larger prospective studies are recommended to evaluate its impact on medicine quality and therapeutic outcomes.

Keywords: Substandard medicines; Falsified medicines; Mini-laboratory; Medicine quality screening; Drug-holding premises; Akwa Ibom State.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 007

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Knowledge and Practice of Breast Self-Examination (BSE) Among Female Undergraduate Students of the University of Nigeria, Nsukka: A Cross-sectional Study

Amorha, K. C., & Chibuoke, O. M*

Department of Clinical Pharmacy and Pharmacy Management, Faculty of Pharmaceutical Sciences, University of Nigeria Nsukka, PMB 410001, Enugu State, Nigeria

***Corresponding Author:** kassiachibuoke@gmail.com, Tel: +2349061331547

ABSTRACT

Background and Purpose: Breast self-examination (BSE) is a cost-effective method for early detection of breast abnormalities, particularly in low- and middle-income countries. This study aimed to evaluate the knowledge and practice of BSE among female undergraduates of the University of Nigeria, Nsukka.

Methods: This cross-sectional study was conducted from March to April 2025 among female undergraduates aged 16–35 years residing in campus hostels who provided informed consent. Eligible participants were selected using systematic sampling followed by simple random sampling. Data were collected using a 35-item structured questionnaire covering demographics, BSE knowledge and practice, and a BSE checklist. Following the assessment, an educational video demonstrating the correct BSE procedure was shown to participants as an educational activity, addressing the identified knowledge and practice gaps. Bloom's cut-off points categorised knowledge and practice as high (80 – 100%), medium (60 – 79%), or low (≤ 59%). Data were analysed using IBM SPSS Version 27.0 with descriptive statistics and Pearson's Chi-square. Statistical significance was set as $p < 0.05$.

Results: Four hundred students participated. Most were aged ≤ 26 years (n = 393, 98.3%), in 100-level (n = 116, 29.0%), single (n = 397, 99.3%), had no formal BSE training (n = 234, 58.5%), and no family history of breast cancer (n = 366, 91.5%). Most demonstrated poor BSE knowledge (n = 364, 91.0%) and practice (n = 303, 75.8%). Students in 600 Level ($\chi^2 = 56.263$, $p < 0.001$) and those diagnosed with breast-related disorders ($\chi^2 = 68.468$, $p < 0.001$) had better knowledge. While practice was significantly associated with age ($\chi^2 = 18.493$, p = 0.018), with the highest proportion of good practice among students aged 24–26 years (n = 11, 20.8%), and level of study ($\chi^2 = 23.018$, p = 0.011), with the highest proportion among 400-level students (n = 8, 18.2%). Prior awareness of BSE was also significantly associated with practice ($\chi^2 = 16.519$, p < 0.001), with a higher proportion of good practice among those who had heard of BSE (n = 31, 12.3%) than those who had not (n = 6, 4.1%).

Conclusions and Implications: Most respondents had poor knowledge and practice of breast self-examination, highlighting the need for tailored breast-health education to address these gaps and improve awareness.

Keywords: Breast self-examination; Female Undergraduate; Knowledge; Practice

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 008

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

In Silico Evaluation of the Antibacterial Properties of Acyl hydrazones derivatives of selected aromatic aldehydes

Elisha Mfonma1, Joseph Oyong[2], Oladoja Awofisayo[2*]

[1]General Hospital, Oron,
[2]Department of Pharmaceutical and Medicinal Chemistry, University of Uyo, Uyo, Akwa Ibom State

***Corresponding author:** oladojaawofisayo@uniuyo.edu.ng
Tel: +2348162799446, +2349023313664

ABSTRACT

Background: The growing threat of antimicrobial resistance has intensified the search for novel antibacterial agents with improved therapeutic potential. Acyl hydrazone derivatives, particularly those synthesized from aromatic aldehydes, have demonstrated diverse biological activities, including promising antibacterial properties. This study evaluated the antibacterial potential of these derivatives against three important bacterial targets—penicillin-binding protein (PBP), dihydrofolate reductase (DHFR), and topoisomerase IV (PDB ID: 4KPF)—using in silico computational approaches. Cefotaxime, trimethoprim, and ciprofloxacin served as the reference drugs for PBP, DHFR, and topoisomerase IV, respectively.

Methods: A series of acyl hydrazone compounds were designed and subjected to Density Functional Theory (DFT) quantum chemical calculations evaluate their electronic properties and chemical reactivity. Subsequently, molecular docking studies were conducted to assess their binding affinities and interactions with the selected target enzymes. The compounds were evaluated for their pharmacokinetic characteristics through ADMET analysis.

Results: These revealed that several acyl hydrazone derivatives exhibited strong binding interactions and favorable pharmacokinetic profiles comparable to those of the standard drugs. **Conclusion**: These findings indicate that acyl hydrazone derivatives of aromatic aldehydes represent promising lead further experimental validation.

Keywords: Novel Acyl hydrazones, Aromatic aldehydes, Antibacterial agents, Density Functional Theory (DFT), Molecular docking, ADMET Profiling

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 009

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Adherence to Iron and Folic Acid Supplementation and Associated Factors among Pregnant Women Attending Antenatal Care in a Teaching Hospital in Bauchi North-Eastern Nigeria

Nafisatu J. Mijinyawa,[1]* Michael Adeniyi [2], Yahkub Mutalub[3]

[1]Department of Pharmaceutical Services, Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, Nigeria
[2]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, University of Jos, Jos, Nigeria
[3]Department of Clinical Pharmacology/Family Medicine, Abubakar Tafawa Balewa University (ATBU)/ ATBU Teaching Hospital, Bauchi, Nigeria

*Corresponding author: nafi5bash@gmail.com

ABSTRACT

Background and purpose: Iron and folic acid supplementation (IFAS) during pregnancy can prevent maternal anaemia and fetal neural tube defects, yet adherence remains suboptimal across sub-Saharan Africa, and there is limited data for Bauchi State in North-Eastern Nigeria. This study assessed adherence to IFAS and its sociodemographic, obstetric and knowledge-related correlates among pregnant women attending antenatal care (ANC) at Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH).

Methods: A cross-sectional study was conducted involving 380 pregnant women attending the ATBUTH ANC clinic between September–November 2023. They were selected via systematic sampling of sample interval of 5 and a sample frame of 1950. Pregnant women who were included were at least 18 years old, had a minimum of one previous ANC visit, had been on IFAS for at least one month, and consented to participate. An interviewer-administered questionnaire incorporating an adapted 4-item Morisky Medication Adherence Scale (MMAS-4) assessed sociodemographic, obstetric, knowledge and adherence variables. From the MMAS-4: each item was scored 0 (non-adherence) or 1 (adherence), summed to a total score of 0–4, and categorised as high/good (4), moderate (2–3) or poor adherence (score≤1) [3]. Chi-square tests and multivariable logistic regression (SPSS v27.0) identified independent predictors of adherence; significance was set at $p<0.05$.

Results: Only 22.4% of participants had high adherence to IFAS, 41.1% moderate and 36.6% poor, despite 81.0% demonstrating high IFAS-specific knowledge. Nulliparity compared to having more than four children (AOR=3.08, 95%CI 1.11–8.52, p=0.031), Having first ANC attendance 10 weeks' gestation compared to >20weeks (AOR=0.21, 95%CI 0.09–0.49, p<0.001), 4–6 compared to ≥7 ANC visits in current pregnancy (AOR=2.25, 95%CI 1.03–4.89, p=0.041) and poor compared to good knowledge of IFAS (AOR=0.21, 95%CI 0.06–0.69, p=0.010) independently determined adherence.

Conclusions and implications: Adherence to IFAS among the study population was low, with fewer than one in four achieving optimal adherence despite generally high supplement-specific knowledge, revealing a critical knowledge-practice gap. Parity, timing and frequency of ANC attendance, and IFAS knowledge were the principal independent predictors. Structured counselling integrated into routine ANC, targeting multiparous women could strengthen adherence and improve maternal and perinatal outcomes in similar resource-limited settings.

Keywords: Adherence; Iron and folic acid supplementation; Pregnant women; Antenatal care; Knowledge; Pharmacist counselling; Nigeria

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 010

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

The Spatial Distribution of Pharmaceutical Start-ups in Africa: An Analysis of Innovation Clusters and Policy Drivers

Mbata, IC

Sure-Med Pharmacy Limited, Owerri, Nigeria; ikenna.mbata@gmail.com

ABSTRACT

Background and Purpose: Over the years, innovation ecosystems have evolved in Africa, stimulating research interests in investigating them. The spatial distribution of pharmaceutical start-ups in Africa sparks off interest in its uneven spread, as only few countries account for most of the continent's entrepreneurial activity[1,3]. Few works exist which try to study the factors behind this situation[2]. This work bridges the gap by analyzing the geographical distribution of pharmaceutical start-ups in Africa and highlighting the conditions behind the emergence of innovation clusters.

Methods: This research uses fuzzy-set qualitative comparative analysis (fsQCA), quantitative spatial analysis and comparative case studies in a mixed-method approach. The primary data used in the study, the start-up count, sourced from Crunchbase, yields 799 start-ups gotten from 38 countries. This was used to develop a heatmap. The analysis shows a highly skewed distribution where nearly 60% of all the pharmaceutical start-ups are located in just three countries. To elucidate this, the fsQCA method analyzes the various combinations of institutional and structural factors which could influence the emergence of pharmaceutical start-ups.

Results: The findings reveal that pharmaceutical clustering is possible through several causal pathways, with university presence appearing as a core condition in all the configurations. The study also highlights structured pharmaceutical innovation ecosystems in three tiers - dominant, emerging and peripheral innovation hubs - each showing its level of ecosystem maturity. Comparative case studies of South Africa, Kenya and Uganda provide more depth to the real-life interaction of these structural conditions. Results show that the sustainability of pharmaceutical innovation is dependent on the interplay of economic, healthcare and institutional systems in the presence of university infrastructure.

Conclusion and Implications: Conclusively, the study enhances the understanding of the configurational patterns to Africa's pharmaceutical entrepreneurship ecosystems. The study suggests that making investments into university and research infrastructure should be paramount, while policy designs to strengthen the pharmaceutical start-up ecosystem should be tailored to each tier's capabilities.

Keywords: Pharmaceutical start-ups, spatial distribution, innovation clusters, entrepreneurial ecosystems, fsQCA

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 011

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

The Survey on Patients Preference of Dosage Form.

Meko OA[1]*, Arhewoh MI[2]

*[1]Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State, Nigeria
[2]Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmacy, University of Benin, Edo State, Nigeria.

***Corresponding author:** adamekoh@gmail.com, Tel: +2347038611554

ABSTRACT

Background: Previous empirical studies have shown that patients differ in their preferences for pharmaceutical dosage forms and that such preferences may influence medication use and adherence. These findings informed the present survey among adults in Anambra State, Nigeria, where evidence on dosage-form preferences remains limited. This study therefore assessed adults' knowledge and preferences regarding pharmaceutical dosage forms, examined the associations between demographic characteristics and dosage-form preferences, and generated findings that may inform dosage-form selection and utilization. The study addressed the following research question: What dosage forms do adults prefer, and are these preferences associated with their demographic characteristics?

Method: A cross-sectional survey was conducted among adults aged 20 years and above attending two hospitals in Anambra State, Nigeria. A pretested and validated four-section questionnaire was administered over three months. Data were statistically analysed to assess knowledge, dosage-form preferences, and associations between demographic characteristics and preferences.

Results: A total of 500 questionnaires were distributed, of which 400 were completed and analysed. Most respondents were aged 20–41 years, and 84.6% had tertiary education. Tablets were the most commonly used dosage form (70.3%), while injections were the most preferred (47.3%), followed by tablets (41.0%). Pharmacists were the most reliable source of medicine information (73.3%). Significant associations were observed between dosage-form preference and marital status, age, religion, occupation, income, and educational status ($p < 0.05$).

Conclusion and Implications: Injections and tablets were the most preferred dosage forms, with injections being the most preferred. Dosage-form preferences varied significantly across demographic characteristics. These findings support consideration of patient preferences and demographic characteristics in dosage-form selection and pharmacist-led medicine education and may inform future pharmaceutical formulation and dosage-form development.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 012

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

In Vivo Antibacterial and Prophylactic Efficacy of Hydro-Alcoholic Leaf Extract of *Alchornea cordifolia* against Experimental *Staphylococcus aureus* and *Escherichia coli* Infections in Wistar Rats

Obasi J.C[1]., Onyechi K.K[1]., , Ike C[2]., Umeh B.I[3*]., Esimone C.O[2]., Emeje M[4]

[1]Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Awka, Nigeria
[2]Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Awka, Nigeria
[3]Department of Clinical Pharmacy and Pharmacy Management, Nnamdi Azikiwe University, Awka
[4]Nigeria Natural Medicine Development Agency (NNMDA), Lagos, Nigeria

[*]***Corresponding author:****bi.umeh@unizik.edu.ng,*

ABSTRACT

Background: Alchornea cordifolia is traditionally used in the management of infectious diseases and has demonstrated antibacterial activity against Gram-positive and Gram-negative pathogens. However, studies on *in vivo* activity and prophylaxis remain limited.

Objective: This study evaluated the *in vivo* antibacterial efficacy and prophylactic potential of the hydro-alcoholic leaf extract of *Alchornea cordifolia* against experimentally induced *S. aureus* and *E. coli* infections using serial total viable bacterial counts.

Method: Wistar albino rats weighing 80–160g were maintained under standard laboratory conditions, and infection was established by intraperitoneal inoculation with standardized bacterial suspensions. Total viable counts were determined using the surface-spread technique on nutrient agar incubated at 37 °C. Infected animals received *A. cordifolia* extract or standard drugs, while untreated infected animals served as controls. Bacterial counts were monitored at 48-h intervals during treatment. A separate prophylactic study was conducted, in which animals were pre-treated before challenge with standardized bacterial inocula.

Result: Treatment with *A. cordifolia* extract reduced *S. aureus* counts from 260 CFU on day 3 to 28 CFU on day 14, while *E. coli* decreased from 297 to 18 CFU on day 14. Untreated controls remained at 295–300 CFU. Gentamicin and ciprofloxacin produced greater therapeutic reductions, with both reaching 5 CFU by day 14. In contrast, prophylactic activity was superior with the crude extract: Gentamicin reduced *S. aureus* to 255 CFU, and ciprofloxacin reduced *E. coli* to 295 CFU, whereas *A. cordifolia* extract reduced *S. aureus* to 10 CFU and *E. coli* to 155 CFU.

Conclusion and Implications: These findings provide *in vivo* evidence of therapeutic and prophylactic antibacterial activity of *A. cordifolia* leaf extract against *S. aureus* and *E. coli* infections and highlight its promising potential for further pharmacological investigation and development as a prophylactic herbal antibacterial agent.

Keywords: *Alchornea cordifolia*; antibacterial activity; prophylaxis; *Staphylococcus aureus*; *Escherichia coli*; total viable count

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 013

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Seroprevalence of Hepatitis B Surface Antigen (HBsAg) and Knowledge of Hepatitis B Among Cleaners and Porters at a Tertiary Hospital in Nigeria.

Odihi CO, Akpa J, Abula F, Ikyon A, Num AJ, Okoh M, Abah J, Shambe DN, Dzever JI* and Onuh E.

Association of Hospital and Administrative Pharmacists of Nigeria, Benue State Chapter.

***Corresponding author:** dzeverjoy@yahoo.com; Tel: +2347039218944

ABSTRACT

Background and purpose: Hepatitis B virus (HBV) infection remains an important public health problem in Nigeria. Although healthcare workers face occupational risks of HBV infection, non-clinical support staff like cleaners and porters are often overlooked in occupational health programmes. This study determined the seroprevalence of hepatitis B surface antigen (HBsAg) and assessed HBV knowledge, occupational exposure and vaccination practices among cleaners and porters at Benue State University Teaching Hospital (BSUTH), Makurdi, Nigeria.

Methods: A cross-sectional study was conducted among cleaners and porters at BSUTH using an interviewer-administered structured questionnaire assessing sociodemographic characteristics, knowledge of HBV infection, occupational exposure to blood and body fluids, and vaccination history. Blood samples were screened for HBsAg using a rapid diagnostic test kit. Data were analysed using descriptive and inferential statistics.

Results: Of 223 participants, 126 were cleaners, and 97 porters. On the knowledge of HBV infection; 74.0% knew that HBV causes liver damage, 71.0% and 76.0% named contact with infected blood and needle-stick injuries, respectively, as means of transmission, and 81.0% knew that HBV infection is vaccine preventable. Knowledge gaps involved mother-to-child transmission (60.0%) and three-dose vaccination schedule (62.0%). Knowledge was significantly associated with age (p=0.009), education (p=0.034), occupation (p=0.012) and employment status (p=0.011). Occupational exposure was substantial, with 21.0% reporting previous needle-stick injuries and 17.0% reporting blood/body-fluid splashes. Only 10.0% reported previous occupational exposure incidents. Among 206 participants tested, three (1.5%) were HBsAg-positive. Only 22.0% had ever received HBV vaccine and 7.2% completed three doses. However, 95.0% were willing to receive the vaccine and 96.0% to complete three-dose schedule. Major barriers included lack of awareness (40.4%), vaccine unavailability (22.9%), low perceived risk (16.1%) and cost (9.0%).

Conclusions and implications: Despite low HBsAg seroprevalence, cleaners and porters experienced significant occupational exposure and inadequate vaccination coverage. Strengthening HBV education, workplace vaccination, PPE provision and simple exposure-reporting systems is essential to protect the usually neglected workforce.

Keywords: Hepatitis B virus; HBsAg; seroprevalence; cleaners; porters; occupational exposure; vaccination.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 014

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Physiologically Based Pharmacokinetic Modelling in Celiac Disease: Current Landscape and Opportunities for Model-Informed Drug Development

Omojuyigbe J.O*, Taiwo W.O, Orimolade T.T

Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria

***Corresponding author:** omojuyigbejeremiah@gmail.com; Tel"+2349095914043

ABSTRACT

Background: Celiac disease (CeD) alters intestinal physiology, potentially affecting drug absorption, metabolism, and systemic exposure. Physiologically based pharmacokinetic (PBPK) modeling provides a mechanistic approach to predict these changes and support model-informed drug development (MIDD). This systematic review aimed to synthesise current evidence on PBPK modeling in CeD and its translational applications.

Methods: A systematic review was conducted across 3 major databases, namely PubMed, Google Scholar, and ScienceDirect. Searches were conducted using predefined keywords from inception till 2026 to identify relevant articles. Original studies reporting the development or application of PBPK models to predict drug pharmacokinetics in celiac disease (CeD) were eligible, whether published as full-text articles or available only as conference abstracts or posters. Eligible reports had to describe model inputs, pharmacokinetic predictions, or model verification outcomes. Reviews, studies not employing PBPK modelling, and reports that did not explicitly model CeD-related physiology or populations were excluded. Two reviewers independently screened records and extracted data on model characteristics, disease-specific physiological adaptations, pharmacokinetic outcomes, model verification, and MIDD applications. Findings were synthesised narratively.

Results: Of 394 articles screened, two studies met the inclusion criteria. Both developed Simcyp PBPK models using intestinal CYP3A probe substrates to assess CeD-related alterations in first-pass metabolism. The first modelled midazolam in pregnant women with CeD, incorporating reduced intestinal CYP3A4/3A5 abundance and predicting increased systemic exposure. The second developed a disease-specific virtual CeD population and modelled extended-release felodipine across disease-severity groups. Both predicted increased AUC and Cmax with reduced intestinal CYP3A activity, although they differed in population definition, physiological parameterisation, and verification. The disease-specific model predicted felodipine clearance closely matching observed values (56.9 vs. 56.1 L/h). Sensitivity analysis identified intestinal CYP3A4 abundance and unstirred boundary-layer thickness as important exposure determinants, within a model incorporating villous atrophy, permeability, gastrointestinal transit, and disease severity. Further simulations addressed intestinal concentrations, drug interactions, bioequivalence, and virtual trials.

Conclusion: PBPK modelling in CeD remains supported by limited, heterogeneous evidence but is progressing toward disease- and severity-specific virtual populations. Further research should prioritise external validation across drugs, disease phenotypes, and clinical pharmacokinetic data to strengthen the evidence base for precision dosing and MIDD applications.

Keywords: Celiac disease; Drug Disposition; Physiologically based pharmacokinetics; PBPK; Pharmacometrics; Model-informed drug development

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 015

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

In-Silico Antihelminthic Evaluation of Phytochemicals and Comparative *In-Vitro* Analysis of Solvent Leaf Extracts of *Anthocleista djalonensis*

Ojiakor Joseph Ekenedilichukwu

Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmaceutical Sciences, Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State, Nigeria.

ABSTRACT

Background: The bioactive compounds responsible for a particular medicinal property of an herbal extract and the elucidation of their mechanism of action are essential stages in drug discovery and development. This aimed to evaluate through *in silico* and *in vitro* studies of anthelmintic properties of three different solvent leaf extracts of *Anthocleista djalonensis*.

Methods: In the *in vitro* study aspect of this work, the leaf extracts of *Anthocleista djalonensis* were obtained using analytical ethanol, hot distilled water, and local gin (78% ethanol content) as extracting solvents. The anthelminthic death and paralysis time of the extracts at dose levels of 10, 25 and 50 mg/ml were determined using *Lubricus terrestris* in a standard *in vitro* anthelminthic assay with albendazole as the positive control drug. In the *in silico* aspect of this work, the binding affinities of the reported chemical constituents of *Anthocleista djalonensis* leave as ligands on the active sites of four identified essential drug targets (receptors) in worms were determined through molecular docking simulation using Autodockvina® in a Linux platform.

Results: The local gin, ethanol and aqueous extracts showed significant ($\alpha < 0.05$) dose-dependent paralysing and lethal activities on free-living earthworms, within the experimental dose levels used in this study. Among the three extracts, the aqueous extract had the least anthelminthic effect. In contrast, the local gin and ethanol extract had comparable anthelminthic effects with better worm-lethal effects than the positive control. Isovitexin, β-sitosterol, 3-QCA, 5-QCA and quercetin were the frontrunner compounds that had higher binding affinities in the active site of at least one of the four screened drug targets (mitochondrial rhodoquinol-fumarate reductase, lysyl-tRNA Synthetase, carbonic anhydrase and sulfotransferase) when compared to the reference inhibitors of these receptors.

Conclusion: The results obtained showed that the three leaf extracts have *in vitro* anthelminthic properties identified in the drug targets of the bioactive compounds.

Keywords: *Anthocleista djalonensis, in vitro,* anthelminthic, *in silico*

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 016

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Socio-Economic Burden of Non-Communicable Diseases among Households in Obio/Akpor Local Government Area, Rivers State, Nigeria

Okoronkwo, N. A[1]*, Okafor, U. G[2].

[1]Department of Clinical Pharmacy and Pharmacy Administration, Abia State University, Uturu, Nigeria
[2]Euclid University, Central African Republic

***Coresponding author:** ngozi.okoronkwo@abiastateuniversity.edu.ng

ABSTRACT

Background and Purpose: Non-communicable diseases (NCDs) constitute a growing health and socioeconomic challenge, particularly because their chronic nature requires prolonged treatment and recurrent household expenditure. This study assessed the socioeconomic burden of NCDs among households in Obio/Akpor Local Government Area (LGA), Rivers State, Nigeria, focusing on treatment expenditure, household income, coping strategies and social consequences.

Methods: A cross-sectional mixed-methods study was conducted among patients and caregivers accessing care at selected public and private health facilities in Obio/Akpor LGA. Of 275 questionnaires administered, 240 (87.2%) were returned and analysed. Quantitative data were collected using structured questionnaires, complemented by focus group discussions and in-depth interviews. Data were assessed for disease patterns, treatment expenditure, household income burden, coping mechanisms and socioeconomic consequences of illness.

Results: Hypertension was the most frequently reported NCD (49.0%), followed by diabetes (20.0%), cancer (15.0%), asthma (11.2%) and combined diabetes/hypertension (5.0%). Drugs and consumables constituted the largest component of treatment expenditure (48.7%), followed by hospital visits and institutional services (23.7%), healthcare provider/consultation costs (13.7%) and laboratory investigations (12.5%). While 43.75% of respondents spent 1–4% of household income on treatment, 42.5% spent 5–9%, 7.5% spent 10–14% and 5.0% spent ≥15%. Special dietary requirements (78.7%) and caregiving time (75.0%) were substantial additional burdens. About 51.2% relied on assistance from friends and relatives to cope with illness costs, while only 35.0% reported independently meeting their costs.

Conclusions and Implications: NCDs impose a multidimensional burden extending beyond medicine costs to household finances, caregiving, productivity and social wellbeing. Strengthening pharmaceutical care, access to affordable essential medicines, adherence support, preventive health education and health-insurance coverage could reduce the financial and social consequences of chronic disease and advance the One Health–One Pharmacy agenda.

Keywords: Non-communicable diseases; socioeconomic burden; household expenditure; health insurance; hypertension; Nigeria

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 017

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Beyond Dispensing: Pharmacists' Contribution to Hypertension Programme Implementation and Medicines Management at a Cardiovascular Research Center in Nigeria

Ali P.P.[1,2], Shedul G.J.[1], Okpe I.[1,2], Ugwuneji E.N.[1,2], Ezemejor C.N.[1], Ojji D.B.[1,2]

[1]Pharmacy Department, Cardiovascular Research Center, University of Abuja/University of Abuja Teaching Hospital, Gwagwalada, FCT, Nigeria
[2]University of Abuja Teaching Hospital, Gwagwalada, FCT, Nigeria

***Corresponding author:** ponz4all@gmail.com; Tel:+2348062825041

ABSTRACT

Background: The role of pharmacists in health programmes extends beyond dispensing. Although hypertension programmes are expanding in Nigeria's primary care, there is little documentation of how pharmacy-led medicines management supports their delivery and sustainability through funding transitions. Since 2017, pharmacists at the Cardiovascular Research Center, University of Abuja/University of Abuja Teaching Hospital, Gwagwalada, Nigeria, have contributed to hypertension programme implementation, requiring rigorous medicines management, documentation and regulatory compliance.

Objective: To describe pharmacists' contribution to hypertension programme strengthening and medicines management in a Nigerian tertiary healthcare setting.

Methods: A descriptive programme implementation report was developed using routinely collected pharmacy and programme monitoring data from the Hypertension Treatment in Nigeria (HTN) Study. Data sources included facility-level medicines-management records and programme documentation on drug revolving fund operations, medicine sales, stock-card documentation, financial records and stock-outs. Programme indicators were summarised descriptively to document changes in medicines-management performance and operational ownership over time. Additional facility handover records from July–August 2026 were used to describe documentation completeness and blood pressure control during the transition to PHC staff-led operations.

Results: The pharmacy-managed DRF reached all 60 PHCs. Documented medication sales rose from 80% to 100%, stock-card fidelity from 68% to 94%, and financial documentation from 70% to 100%, while stockouts fell from 14.6% to 1.7%. Following the end of external funding in December 2023, the Cardiovascular Research Center self-funded the DRF while the pharmacy retained procurement and consumption control, later transferring this function to PHC staff from February 2026. Records from this handover (July–August 2026; 3,808 visits, 54 PHCs) showed 98.5% blood pressure documentation, 97.6% medication documentation and 99.2% patient-ID completeness, with blood pressure at goal (<140/90 mmHg) in 50.4% of visits with a recorded reading, indicating sustained fidelity through both transitions. Across 22,000 patients in 60 primary healthcare centres in the six area councils of the Federal Capital Territory, blood pressure fell by 35%.

Conclusion: An integrated pharmacy function strengthened medicines management, pharmacy capacity and hypertension

care delivery, alongside a reported 35% reduction in blood pressure. Pharmacy-managed supply and documentation systems supported medicines availability and data quality, sustaining operations through funding and ownership transitions. These experiences provide a foundation for evaluating and scaling the model through the forthcoming HTN 2.0 Study across Nigeria's six geopolitical zones. Programme planners and policymakers should consider embedding pharmacists in primary healthcare hypertension programmes to strengthen medicines management, supply-chain continuity and clinical data quality.

Keywords: Pharmacy practice; Hypertension programme; Drug revolving fund; Medicines management; Primary healthcare

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 018

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Evaluation of Safety Profile and Gastro-protective Activity of a Herbal Product in Wistar Rats

Ayanniyi R.O.*, Peter S., Agenyi E.U.

Department of Pharmacology and Toxicology, University of Ilorin, Ilorin, Kwara State

***Corresponding author:** ayanniyi.ro@unilorin.edu.ng, Tel: +2348033908619

ABSTRACT

Background: World Health Organization (WHO) guideline for herbal drug quality serves to improve safety, efficacy and promote the proper use and development of traditional medicines. A herbal product supplied as powdered leaf that is claimed to be used in the prevention and treatment of gastric inflammation and pain. The study was thus designed to determine the safety profile and efficacy.

Methods: The powdered leaf was subjected to qualitative phytochemical analysis using standard method. The safety of the methanol leaf extract was evaluated using brimp shrimp assay, acute toxicity and sub-acute toxicity (14 days repeated-dose toxicity). The gastro-protective activity was determined by pretreating the rats orally with (400 mg/kg and 800 mg/kg) of extract. Omeprazole 20 mg/kg was administered as positive control. Diclofenac 150 mg/kg was administered orally after an hour to induce gastric inflammation. The rats were anaesthetized using ketamine after three hours. The stomach was then removed and washed for macroscopic examination. A scoring of (0-3) was used; normal (0), redness (1), hemorrhagic streaks (2) bands of inflammation (3).

Results: The extract contained alkaloids, tannins, saponins, flavonoids and anthraquinone glycosides. Brine shrimp assay showed the extract was cytotoxic with an LC_{50} of 83 ppm. Acute oral toxicity of extract in rats was estimated to be greater than 2000 mg/kg. Subacute toxicity study showed no adverse dose-related effects in the hematology, biochemical and histopathological analysis. Stomach of rats in control group showed significant redness, hemorrhagic streaks and bands of inflammation. Percentage inhibition of gastric inflammation in rats pretreated with 400 mg/kg and 800 mg/kg was 80% and 90% respectively. Omeprazole 20 mg/kg produced inhibition of 78%.

Conclusion: Data obtained shows the herbal product has gastroprotective activity but appears to be toxic based on brine shrimp assay. Further research is required to verify purity and identify contaminants.

Keywords: Herbal product; Gastric inflammation; brine shrimp assay; acute toxicity; subacute toxicity

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 019

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Spectrophotometric Analysis for the Concurrent Estimation of Ofloxacin and Tinidazole in Co-Formulated Tablets

Abdullahi, S.T.[1*], Busari, M.F.[1], Eniayewu, O.I.[1], Bamidele, O.D.[1], Sanusi, A.[1], Madaki, F.M.[2], Njinga, N.S.[1]Bakare-Odunola M.T.[1]

[1]Department of Pharmaceutical & Medicinal Chemistry, University of Ilorin, Ilorin, Nigeria
[2]Department of Biochemistry, Federal University of Technology, Minna, Nigeria

***Correspondence:** abdullahi.st@unilorin.edu.ng, +2348035883569

ABSTRACT

Background & Purpose: Ofloxacin is a synthetic fluoroquinolone antibiotic ($C_{18}H_{20}FN_3O_4$), while tinidazole is a nitroimidazole derivative ($C_8H_{13}N_3O_4S$). Although chemically distinct, they are frequently co-formulated to treat mixed bacterial and protozoal infections. This study developed and validated a simple, sensitive, and rapid ultraviolet spectrophotometric method for the determination of ofloxacin and tinidazole in both single-component and fixed-dose combination dosage forms.

Method: The method employs Vierordt's technique, using acidified water:methanol (50:50) as the solvent for the assay to estimate tinidazole in the presence of ofloxacin and vice versa. Validation was performed as per ICH guidelines, and recovery studies confirmed the accuracy of the method. Commercial single-component and combination tablet formulations were successfully analysed.

Results: Ofloxacin and tinidazole exhibited absorption maxima (λmax) at 294 nm and 315 nm, respectively, and at 297 nm in binary mixtures. Both analytes showed excellent linearity (r = 0.9999) over 3–20 µg/mL for ofloxacin and 5–30 µg/mL for tinidazole. Spectrophotometric sensitivity was approximately threefold higher for ofloxacin than for tinidazole, as indicated by specific absorptivity (917 vs. 344 $dL \cdot g^{-1} \cdot cm^{-1}$) and Sandell's sensitivity (0.0109 vs. 0.0290 $\mu g \cdot cm^{-2}$). Both drugs met ICH acceptance criteria for accuracy (98–102% recovery) and precision (%RSD ≤ 2%). Ofloxacin showed slightly superior performance, with higher accuracy (% Recovery (%RSD): 100.53 (0.77) vs. 100.27 (1.64)] and better precision (%RSD (range): 1.72 (1.44) vs. 2.11 (0.32)] than tinidazole. The simultaneous equation method effectively resolved overlapping UV spectra, enabling accurate quantification of both drugs in co-formulated tablets (% content: 101.83 for ofloxacin and 102.66 for tinidazole).

Conclusion: The developed UV spectrophotometric method provides accurate, precise, and reliable quantification of ofloxacin and tinidazole in single-component and co-formulated tablets. While ofloxacin demonstrated marginally superior analytical performance, the method is suitable for routine quality control of both drugs.

Keywords: spectrophotometry, ofloxacin, tinidazole, method development, validation, simultaneous equation method.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 020

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Virological Outcomes Following Transition to Dolutegravir-Based Regimens among Children Living With HIV at Massey Street Children's Hospital, Lagos, Nigeria

Adebayo-Tukur, A.[1]; Turner, O.[1]; Okosun, A.[1]; Salisu, W.[1]; Akinmeji, O.S.[1]*; Aniemeka, K.[1]; Adesina, A.[2]; Okeneye, M.[2]; Ajijelek, A.[2]; Zekeri, D.[3]; Uthman, I.[3]; Umanna, C.[3]

[1]Department of Pharmacy, Massey Street Children's Hospital, Lagos, Nigeria
[2]Howard University Global Initiative in Nigeria, Nigeria
[3]Excellence Community Education Welfare Scheme (ECEWS), Nigeria

***Corresponding Author:** Olufemiak2@gmail.com, +2347055117680

ABSTRACT

Background and Purpose: Dolutegravir (DTG)-based antiretroviral therapy is recommended for eligible children living with HIV and has demonstrated superior treatment outcomes compared with some conventional regimens. This study evaluated virological outcomes following transition to DTG-based regimens among children living with HIV (CLHIV) in a secondary paediatric hospital in South-West Nigeria.

Methods: A retrospective cohort study reviewed clinical records of 123 CLHIV aged <18 years who transitioned to DTG-based regimens in 2021. Viral load (VL) was assessed at baseline and at 3, 6, 9 and 12 months following transition. Virological changes were assessed using the Wilcoxon signed-rank test, while logistic regression examined associations with adherence.

Results: Mean age was 9.7 years and 54.5% were male. Baseline VL suppression was 67.5%. Suppression increased to 67.5%, 83.0%, 84.6%, and 93.5% at 3, 6, 9 and 12 months, respectively. Significant improvements occurred at 9 months ($Z=3.655$, $p=0.001$) and 12 months ($Z=5.134$, $p=0.001$). Abacavir/lamivudine/dolutegravir was used by 62.6% of participants.

Conclusions and Implications: Transition to DTG-based regimens was associated with substantial improvement in paediatric HIV virological suppression, reaching 93.5% at 12 months. These findings support continued integration of DTG into paediatric HIV care and reinforce pharmaceutical care in medication optimisation and monitoring.

Keywords: Dolutegravir; Paediatric HIV; Viral suppression; Antiretroviral therapy; Pharmaceutical care; Nigeria.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 021

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Formulation and Evaluation of Minocycline Antibacterial Creams from Minocycline Capsules

Edeani Chidiebera*, Udem Ngozi Dorathy and Ezichi Lawrence

Compounding and Quality Control Unit of Pharmacy Department, University of Nigeria Teaching Hospital, Ituku Ozalla.

***Corresponding author:** cchidiebere11@gmail.com

ABSTRACT

Back ground and Purpose: Topical minocycline is used as a first-line treatment for moderate-to-severe acne vulgaris. However, formulating minocycline into aqueous-based semisolid preparations can be challenging because of its stability concerns. This study focuses on the formulating, evaluating and conducting of physical stability assessment of a 4% minocycline cream for antibacterial activity from capsules.

Method: Pre-formulation compatibility study were carried out between minocycline and individual excipients to identify suitable components for the formulation. Appropriate weight of 4% minocycline was used to prepare oil in water emulsion using convectional method. Evaluation of the cream consisting of physical examination, spreadability, pH value and viscosity was carried out. The in-vitro agar diffusion microbiology assay using *Staphylococcus aureus* as clinical isolates were also carried out using 1% Doxycycline cream prepared with similar methods as positive control. The stability study was also carried out and compared with 1% Doxycycline cream.

Results: The physical compatibility study showed that minocycline was compatible with all other excipients with exception of most preservatives such as propylene glycol, phenoxyethanol and ethanol. Both excipients caused the drug to turn black and were therefore excluded from the formulation. In contrast to most preservatives, the cream preserved with sodium benzoate retained its characteristic light green throughout the study period of four weeks. The creams were successfully prepared and were smooth, homogenous, spreadability was 13.6gm.cm/s, viscosity was 2210 mPas, easily washable and non-irritancy and has pH of 3.77 which is within acceptable range of 3.5 – 5.0 stated acceptable range of 2.0–3.0. Both creams had similar activity against *S aureus* of 4 cm inhibition Zone diameter (IZD). The minocycline cream was light green for 4 weeks while doxycycline was milky colour.

Conclusion: Above findings, demonstrated that minocycline creams was successfully prepared and passed all physiochemical parameters as required by pharmacopeia specifications. The 4% Minocycline cream had good antibacterial activity. Findings also showed that preservative selection is important not only for preventing microbial growth but also for maintaining the physical and chemical stability of an extemporaneously prepared cream.

Key words: Minocycline, Creams, Inhibition zone diameter, Stability, Preservative

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 022

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Quality Assessment of Telmisartan Tablet Brands Marketed in Enugu State, Nigeria

Udem, N.D[1*], Okenwa S.C.[1,2], Eze Tessy[1], Chukwura Uju[1]

[1]Quality Control Unit, Department of Pharmacy, University of Nigeria Teaching Hospital, Enugu
[2]Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka.

***Corresponding author:** doragoze@gmail.com,+2348034738246

ABSTRACT

Abstract

Background and Purpose: Telmisartan is a potent angiotensin II receptor blocker used in managing hypertension. Its unique pharmacological features include the longest half-life, partial PPAR-gamma receptor activation, and high lipophilicity. These characteristics enable its standard once-daily dosing, enhance insulin sensitivity, lower blood glucose and triglyceride levels, and provide protection for the heart and kidneys. The innovator telmisartan tablet is scarce, hence its generics manufactured by many pharmaceutical companies are produced to meet demand in Nigeria. However, the generics are not of the same quality as the innovator brand. Therefore, there is a need for quality assessment using pharmacopoeia standards.This study focuses on quality assessment of generic brands of Telmisartan tablets marketed in Enugu State, Nigeria.

Method: Ten brands of Telmisartan tablets were sourced from various Pharmacies shops located in Enugu. Physic-chemical parameters including physical examination, weight uniformity test and disintegration time test were carried out. Determination of drug content using a Ultra Violet spectrophotometer for the various samples of tablets was done using 0.1N Sodium hydroxide as the solvent. The absorbance was measured at the maximum wavelength of 295 nm. High performance liquid Chromatography assay was also done to assess drug content for confirmation of the percentage drug content.

Results: Results showed that all the tablets of Telmisartan passed the physical properties of absence of mottling. Weight uniformity results showed a percentage deviation of less than ±10% for all the samples with disintegration time of less than 15 min. Ultra Violet Spectrophotometer assay revealed that all the brands had percentage drug content value within the British Pharmacopeia specification of 90%—110%. Sample I has highest value of 109.3% while sample A has lowest value of 99.2%.

Conclusions: Based on the results obtained, all brands can be replaced with innovator products as they meet the quality standards.

Keywords: Quality; Assessment; Telmisartan; Brand; Enugu

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 023

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Comparative Assessment of The Antimicrobial Profiles of Emulgels Loaded with Different Concentrations of Spondias mombin leaf extract against Some Multidrug Antimicrobial Resistant Clinical Bacterial Strains.

***Ologunagba MO[1,4,5], Ajibowo OT[1], Ayoola GA[2,4], Adeluola AO[3,4], Adeyemi DK[2,4], Johnson OO [2,4]and Abdulrahman U[3,4]**

[1]Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria.
[2]Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria
[3]Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria
[4]Tetfund Research Group, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria
[5] Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Lead City University, Ibadan, Nigeria.

***Corresponding author**: moyeologunagba@gmail.com +2348033953141

ABSTRACT

Background and Purpose: Plants are considered as alternative sources of antimicrobials in the wake of increasing global antimicrobial resistance. *Spondias mombin* (Combretaceae), has ethnobotanical significance for infectious disease conditions. The leaf extract activity against some multi-drug resistant clinical bacterial strains investigated. The antimicrobial potential of the hydro-ethanol leaf extract loaded into semi-solid pharmaceutical formulations such as an Emulgel has not been explored. This study undertook the comparative assessment of Emulgels loaded with different concentrations of *Spondias mombin (SM)* leaf extract against some multidrug antimicrobial resistant clinical strains.
Methods: A developed and optimized Emulgel loaded with different concentrations (2. 0, 5.0, 7.5 % w/v) of SM extract mixtures were evaluated for their antimicrobial activity against some phenotypically and genotypically determined multidrug resistant strains of *Pseudomonas aeuriginosa* (PSA), *Staphylococcus aureus* (STA), *Enterobacter aerogenes* (ENA) *and, Klebsiella pneumonia* (KLP) obtained from chronic clinical wound isolates using agar well diffusion technique. *S. aureus* (ATCC 25923) and *Escherichia coli* (ATCC 25922) were the controls. Gentamicin ointment and the blank Emulgel served as the comparative positive and negative controls. Ethical approval for study was obtained. Results were statistically presented and analyzed using a one-way analysis of variance (ANOVA), with $P \leq 0.05$
Results: The loaded Emulgels demonstrated activity against bacterial strains (spectrum and zones of inhibition) increased correspondingly with increasing loaded SM concentrations. 2% SM on KLP (5.67 ± 1.15 to 14.00 ± 10), STA (16. 17 ±

0.02), ENA (15.00 ± 0.1). 5% SM on KLP (11.00 ± 3.5 to 17.5 ± 0.87), PSA (11.83 ±0.76), STA (21.00 ± 0.00), 7.5% SM on KLP (14.00 ± 0.66 to 17.50 ± 0.50), STA (14.00 ± 0.00 to 20.00 ± 0.00), ENA (16.00 ± 0.1). Some strains of STA and KLP were not inhibited.

Conclusion and Implications: Study potentiates the therapeutic application of SM loaded semi-solid formulations as a strategic alternative against multidrug resistant bacterial strains for the enteral, rectal, topical and vaginal routes.

Keywords: Antimicrobial activity, *Spondias mombin*, Emulgels**.** Multidrug Resistant Bacterial Strains.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 024

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Antimicrobial Activity of *Terminalia ivorensis* Leaf Extract-Loaded Emulgel against Multidrug-Resistant Clinical Bacterial Isolates.

Ologunagba MO[1,4,5*], Muotoe IP[1], Ayoola GA[2,4], Adeluola AO[3,4], Adeyemi DK[2,4], Johnson OO [2,4] and Abdulrahman U[3,4]

[1]Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria.
[2]Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria
[3]Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria
[4]Tetfund Research Group, Faculty of Pharmacy, University of Lagos, College of Medicine Campus, Idi-Araba, Lagos, Nigeria
[5] Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Lead City University, Ibadan, Nigeria.

***Corresponding/author**: moyeologunagba@gmail.com +2348033953141

ABSTRACT

Background and Purpose: Nigeria has a high plant biodiversity that can be explored for the pharmaceutical industry as a strategic measure for medicine security. Though, the antimicrobial profiles of the leaf extract of *Terminalia ivorensis* (*Anacardiacea*) against multidrug resistant bacterial strains has been investigated [1,2], its profile when loaded into semi-solid formulations such as Emulgel has not been established. This study aimed to determine the antimicrobial activity of *Terminalia ivorensis* (TI) leaf extract loaded emulgels on some multidrug resistant bacterial strains from clinical isolates.
Methods: The optimized emulgels loaded with different TI extract concentrations (2. 0, 5.0, 7.5 % w/v) were comparatively evaluated with Gentamicin Ointment (positive control) at (15 to 100 µg/ml) and the blank Emulgel Carrier Base (negative control) for antimicrobial activity against some phenotypically and genotypically determined multidrug resistant strains of *Staphylococcus aureus* (STA) consisted of different Carbapenemase-Producing, Oxacillin-Resistant and Oxacillin Resistant-Carbapenemase - Producing), *Pseudomonas aeruginosa* (PSA), *Klebsiella pneumoniae* (KLP) contained seven Extended B-Lactamase Producing, and Amp C β-Lactamase strains, *Enterococcus faecalis (*ECF) and *Micrococcus* spp (MCC) strain with active efflux pump activity. *S. aureus* (ATCC 25923) and *Escherichia coli* (ATCC 25922) served as the respective bacterial gram positive and gram negative drug-sensitive control. Antimicrobial susceptibility activity was determined by the zones of inhibition using the agar well diffusion technique. Ethical approval for study was obtained. Results were statistically presented and analyzed using a one-way analysis of variance (ANOVA), with $P \leq 0.05$.
Results: The zones of inhibition demonstrated by the differently loaded TI extracts Emulgels were concentration dependent, microbe specific. KLP strains, ranged between (15.17 ± 0.50 and 21.33 ± 1.04 mm), STA strains was (17.33 ± and 20.00 ± mm), and comparable with gentamicin (15.00 ± 0.10 and 17.67 ±0.8 mm). Some strains of STA and KLP were not inhibited.
Conclusion and Implications: The differently loaded TI Emulgels on the tested multidrug resistant bacterial strains from clinical isolates have been established.
Keywords: Antimicrobial activity, *Terminalia ivorensis*, Crude Leaf Extract, Emulgels, Multidrug Resistant Bacterial Strains

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 025

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Optimizing ICU Antibiotic Use: Linking Antibiotic Utilization with Resistance Patterns in a Nigerian Tertiary Hospital

Idris B.P, Ameh A.N, Ibrahim A., Alemika Bonire E.*, Isah S., Adamu I, Ajuji N., Murtala S., Igashi D., Efunsayo R., Musa S.M., Abdulraheem A., Umar I.A., Abdullahi H., Francis G.,

Department of Pharmaceutical Services Ahmadu Bello University Teaching Hospital, Shika

***Corresponding author:**ebunbonire@yahoo.com, +2348069554768

ABSTRACT

Background: Intensive care units are settings of high antibiotic exposure and increased risk of antimicrobial resistance. Understanding the relationship between antibiotic utilization and resistance patterns can provide useful evidence for optimizing antibiotic use and informing local prescribing strategies. This study examined the relationship between antibiotic utilization and corresponding resistance rates among commonly used antibiotics in an intensive care unit of a Nigerian tertiary hospital.

Methods: A retrospective cross-sectional study was conducted using 168 patient records from the Intensive Care Unit of Ahmadu Bello University Teaching Hospital, Zaria, covering January 2024 to December 2025. Data on antibiotic utilization and antimicrobial resistance were extracted from patient records and laboratory reports. Utilization frequencies were compared with corresponding resistance rates for four commonly used antibiotics. Pearson correlation was used to assess the relationship between antibiotic utilization and resistance rates.

Results: Ceftriaxone had the highest utilization frequency (56.7%), followed by ciprofloxacin (33.0%), meropenem (16.4%), and amoxicillin-clavulanate (8.9%). Corresponding resistance rates were 34.5%, 33.6%, 3.6%, and 26.4%, respectively. A moderate positive correlation was observed between antibiotic utilization and resistance rates ($r = 0.59$). The findings indicate that antibiotics with greater utilization tended to have higher corresponding resistance rates, although the observed association does not establish causality.

Conclusion: The observed relationship between antibiotic utilization and resistance highlights the importance of integrating antibiotic-use surveillance with antimicrobial resistance monitoring in the ICU. Routine review of these indicators can provide an evidence base for refining local empirical prescribing guidance, promoting rational antibiotic selection, and reducing unnecessary antibiotic exposure. Such data-driven approaches may strengthen antibiotic optimization and support sustainable antimicrobial stewardship in tertiary-care settings.

Keywords: Antibiotic Utilization; Antimicrobial Resistance; Antibiotic Optimization; Intensive Care Unit; Antimicrobial Stewardship; Nigeria.

99th Annual National Conference of the Pharmaceutical Society of Nigeria November 2nd-7th, 2026

CONFERENCE ABSTRACT

PSNPIJELE26 026

The Nigerian Journal of PHARMACY
AS MEN OF HONOUR WE JOIN HANDS
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA FOUNDED 1937

Evaluation of the Toxicity and Anti-Lithiasis Effect of the Methanolic Extract of *Phyllanthus amarus* in Wistar Rats

Aliyu Masaud Idris*, Khadija Abdulaziz Aliyu, Abubakar Muhammad Usman

Department of Pharmacognosy and Herbal Medicine, Faculty of Pharmaceutical Sciences, Bayero University Kano, Kano

Corresponding author: imaliyu.phd@buk.edu.ng

ABSTRACT

Background: *Phyllanthus amarus* is widely used in traditional medicine for the management of urolithiasis and other renal disorders, yet its safety profile and efficacy have not been scientifically validated. This study evaluated the physicochemical properties, phytochemical composition, toxicity profile, and anti-lithiasis activity of the methanolic extract of *P. amarus* in Wistar rats.

Materials and methods: Physicochemical and phytochemical analyses were conducted using standard procedures. Acute and sub-chronic toxicity studies were performed following OECD guidelines 425 and 407, respectively. Anti-lithiasis activity was evaluated using an ethylene glycol–induced urolithiasis model in male Wistar rats.

Results: The extract demonstrated the presence of key phytoconstituents, including flavonoids, tannins, saponins, alkaloids, and glycosides. No mortality or significant toxicity was observed at 5000 mg/kg (LD_{50} > 5000 mg/kg). Sub-chronic administration showed no significant adverse effects on hematological, biochemical, or histopathological parameters. The extract significantly reduced urinary crystal formation and improved renal system histology in treated groups compared to the negative control ($p<0.05$).

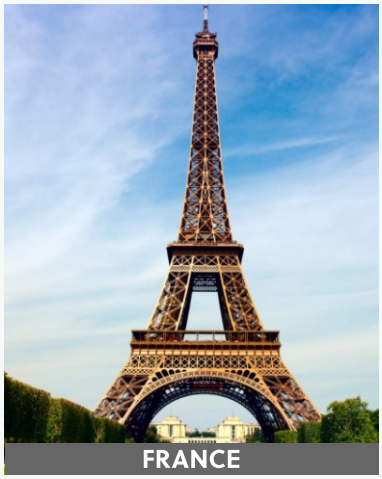
Conclusion: The methanolic extract of *P. amarus* is relatively safe and exhibits significant anti-lithiasis activity, supporting its traditional use and potential development as a phytotherapeutic agent.

Keywords: *Phyllanthus amarus*; urolithiasis; toxicity; histopathology; Wistar rats; phytochemistry


THE NETHERLANDS


UNITED KINGDOM


SPAIN


FRANCE

businessschool™ netherlands
the action learning business school

CEO MAGAZINE TIER ONE GLOBAL MBA RANKINGS 2026

Tier One MBA

that puts you in Top Rank anywhere in **The World**

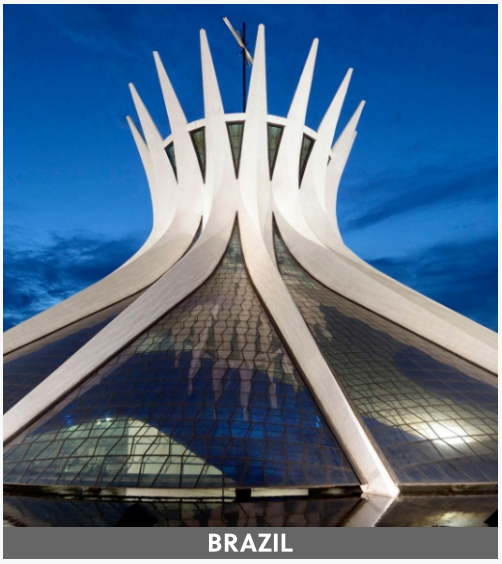

UNITED STATES OF AMERICA


SOUTH AFRICA


CANADA

Business School Netherlands 8, Adekunle Fajuyi Way, Ikeja GRA Lagos, Nigeria Post Code 100271.
For enquiries: www.bsnmba.org, e-mail address: enquiries@bsn-mba.net;**Phone No**: +234-806-721-1068, +234-818-547-7415, +234-803-293-9941, +234-812-384-7107, +234-803-551-1900,+234-807-687-8701.
Social Media Handle: :@bsnnigeria, :Business School Netherlands Nigeria.
Global Headquarters: BSN, Herenstraat 25 Buren, PO Box 709 4116 ZJ Buren. The Netherlands.


CHINA


BRAZIL


NIGERIA