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. 59, ISSUE. 2, 2025

PHARMACY FORWARD:

Building a future-ready workforce for performance, collaboration and transformation

BOOK OF ABSTRACTS 2025

FROM THE
EDITORS DESK

The Nigerian Journal of Pharmacy is a publication of the Pharmaceutical Society of Nigeria that publishes original research papers, critical reviews, systematic reviews, and short communications in all areas of Pharmacy Practice. The Nigerian Journal of Pharmacy has ISSN 0331-670X (Print) and eISSN approved number 2795-2665 obtained from the National Library of Nigeria. The eISSN was also accepted for indexation 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®. All the delegates are heartily welcome to the 98th Annual National Conference of the Pharmaceutical Society of Nigeria tagged "DABO'25".

The conference theme: "**Pharmacy Forward: Building a future-ready workforce for performance, collaboration and transformation"** is highly relevant as it focuses on developing a pharmacy workforce that is equipped for future demands, emphasizing improved performance, teamwork, and adapting to industry changes in Nigeria. It is expected that the conference will bring together policymakers, industry leaders, and health partners to discuss the future of pharmacy in Nigeria. It is noted that forty-six (46) pharmacists will be presenting their research works as posters during the conference as part of the scientific sessions during the conference. All the presenters will be listed in the Brochure this year and the Book of abstracts will also be published online. I sincerely want to appreciate all the members of the Poster Sub-Committee and our volunteered reviewers for their meritorious service to the profession. The corresponding authors of all the abstracts can be contacted freely for further information on their research works.

Best regards,

Prof. Moses A. Akanmu,
B.Pharm, MSc (Ife); PhD (Tokyo), M.Phil. (Stellenbosch)
FNAPharm., FWASP, FPSN
Editor-in-Chief & Chairman. PSN Poster Committee
(On behalf of the Poster Committee DABO 2025)

ABSTRACTS FOR POSTER PRESENTATION AT THE 98TH ANNUAL NATIONAL CONFERENCE OF THE PHARMACEUTICAL SOCIETY OF NIGERIA (3RD -8TH NOVEMBER 2025), KANO, KANO STATE

Abstract No.	Presenting Author	Authors	Title
PSNPDABO25_001	Okwori, J.M.	Okwori, J.M., Oseni, Y.O.	Pharmacy Practice and Regulatory Compliance in Nigeria: A Cross-sectional Assessment of Stakeholder Operations
PSNPDABO25_002	Ronari C. O.	Ronari C. O., Magbodo, U. T., Obidake E. R.	Paediatric Pharmaceutical Care: Gate way in Optimizing Patients Care Outcome
PSNPDABO25_003	Oluleti, O.	Oluleti, O., Maiha B. B., Mohammed, S	Impact of Pharmacist-led Intervention on Medication Adherence and Treatment Outcomes in Asthmatic Patients Attending Respiratory Clinic at National Hospital Abuja.
PSNPDABO25_004	Adebayo-Tukur, A.	Adebayo-Tukur, A., Okosun, A., Akinmeji, O.	Evaluating the Prescribing Pattern of Antibiotics at Massey Street Children's Hospital
PSNPDABO25_005	Poyi O.C.	Poyi O.C., Abaagu G. S., Peter J. O., Amoni, R., Aaron P. N.	Pharmaceutical Quality Assessment of Metronidazole Infusions: A Comparative Study of Hospital-Sourced and Pharmacy-Procured Samples in Jos University Teaching Hospital
PSNPDABO25_006	Oseni, Y. O.	Oseni, Y. O., Okwori, J. M.	Drug Distribution System In Nigeria: Stakeholders' Perceptions, Policy Awareness, and Recommendations for Reforms
PSNPDABO25_007	Temedie T.	Pounds, T., Moye P., Nwassei A., Temedie T., Oreagba, I.A., Wannang, N.N., Oparah, A.C., Obono, M,, Ismael, S., Akpovwovwo, E.E., Erekata, A.O., Oritsegbubemi, N.S., Onyebolise, S.I., Bello, I., Onodugo, C., Amuda-Oladeji, B., Alabelewe, R.M., Odesanya, R.U.	Enhancing Clinical Pharmacy Training in Resource-limited Settings: An International Pharmacy Practice Residency Program with a Layered Learning Approach
PSNPDABO25_008	Adeyemi N.A., Alaus	Adeyemi N.A., Alausa, M. O.	Understanding the Barriers to Diphtheria Vaccination in Nigeria: the Role of Socioeconomic Factors.
PSNPDABO25_009	Aanuoluwa O., Alau	Aanuoluwa O., Alausa M. O.	Assessing the Readiness of Pharmacists for Electronic Prescription Systems in Nigeria
PSNPDABO25_010	Idoko, C.	Idoko, C.	Knowledge, Attitude and Practice of Reproductive Health Medicines (RHMS) use among ReproductiveWomen across different Levels of Health Facilities in Benue State
PSNPDABO25_011	Hamza, U.S.	Hamza, U.S., Umar, I.I., Yalwa'M.A., Sani, N.A., Idris, M.T., Jatau, A.I., Adam, F. H., Ahmad, M.H.	Availability and Storage of Vaccines at Community Pharmacies in Northern Nigeria
PSNPDABO25_012	Salisu, M. A.	Salisu, M. A., Oladeji, A. B., Nuruddeen, S.Y., and Shittu Zayyanu	The Influence of Gender and Educational Status on Patient asking Behaviour in Patient-Pharmacist Interaction

PSNPDABO25_013	Nnamani, M.N.	Nnamani, M.N, Osuafor, N.G., Ikede, P.O., Onwumah, M.U., Egere, E.C., Ogbonna, B.O., Abere, T.A., Nnamani, V.C.	Knowledge and Awareness of HPV and Cervical Cancer Among Female Healthcare Students in Upper Levels at Madonna University, Elele
PSNPDABO25_014	Okafor, U.G.	Okafor, U.G., Eze, O. P., Onwuchuluba, E. E., Oseni, Y.O., Obiakor, N. M	Addressing Health Workforce Emigration and Leveraging Global Migration to Strengthen the Healthcare System in Nigeria
PSNPDABO25_015	Oreagba, I. A.	Okafor, U.G., Oreagba, I. A., Atulomah, N.	Engagement of Private Sector Pharmacists In Enhancing Tuberculosis Case Detection and Management Following an Interventional Training in Lagos, Nigeria
PSNPDABO25_016	Abdulkadir, S.I.	Abdulkadir, S.I.,' Adeniji, B. M., Ukemenam, S. O., Abdullahi, H. A.	Strategies to Prevent Medication Errors in Telepharmacy: A Systematic Review
PSNPDABO25_017	Musa, S. M.	Musa, S. M., Muhammad, M. S., Ahmad, D. M., Ibrahim, I. M., Khalid, G. M.	Pharmacists as Catalysts for Integrating Primary Health Care and Public Health: A Global Perspective
PSNPDABO25_018	Igboke, E. E.	Igboke, E. E. Uro-Chukwu, H.C.	Assessment of Knowledge, Attitude & Practice of Nutritional Intake Among Adult Hypertensive Patients Accessing Care in A Tertiary Hospital In Abakaliki, Ebonyi State
PSNPDABO25_019	Aiyegbajeje, K.J.	Aiyegbajeje, K.J., Soremekun1 R.O., Aina, B. A.	Mobile Authentication Service: A Dual Stakeholder Analysis in Lagos State
PSNPDABO25_020	Amidu, I. M.	Amidu, I. M., Oreagba, I. A.	Evaluation of Pharmacovigilance and Factors Associated with Adverse Drug Reaction Reporting: A Case Study at Military Healthcare Facilities in South West, Nigeria
PSNPDABO25_021	Timipre, O. A.	Timipre, O. A., Owonaro, P. A., Eniojukan, J. F., Adekola, S., Daughter, A. E., Seiyefa, B. F.	Clinical Pharmacist Intervention in Identifying and Resolving Drug Therapy Problems in the Intensive Care Unit of a Tertiary Hospital in South-South Nigeria
PSNPDABO25_022	Okonkwo, C.A.	Okonkwo, C.A., Ogbo, P. U., Ejiofor, C., Ugwuda, C., Onyema, C., Ukwuaba, R., Adinna, C., Ugwu, A., Agu, P., Okechukwu, C.	Information and Communication Technology in Drug Dispensing: Acceptance and Challenges among Pharmacy Staff in Southeast Nigeria
PSNPDABO25_023	Olu-lawal, M.	Olu-lawal, M., Awogbemi, K., Ojo, E., Alaka, B., Ajayi, D., Ibikunle, N., Ayewa, B., Latona, I., Olaoluwa M., Adeyemi T., Oyewale, O., David, T., Abdussalam U., Adebayo, M., Ajadi Y., Raji K., Ademisoye, A., Olu-Lawal, O., Coker, A, Bello, F., Ajayi, O., Adeyemi, F.	Assessment of Willingness of People Living with HIV (PLHIV) to Transit from Daily Oral to Bimonthly Injectable Medication: A Cross-Sectional Study in Osun State Nigeria
PSNPDABO25_024	Aika, I. N.	Aika, I. N., Simon-Eigbe, S. I.	Awareness and Practice of Routine Deworming among Students of the University of Benin
PSNPDABO25_025	Adedeji-Adenola, H.	Adedeji-Adenola, H., Adesina, A., Obono, M., Onedo, T, Okafor, G.U., Longe, M., Oyawole, M.	Knowledge, Perception and Practice of Pharmaceutical Waste Disposal among the Public in Lagos State, Nigeria

PSNPDABO25_026	Williams, F. E.	Williams, F. E., Obiekezie, A. C., Fatade, M. F., Ojurongbe, R. B., Oyemomi, M. D., Eniayewu, O. I., Aika, I. N., Adje, D. U.	Female Pharmacy Students' Knowledge, Attitudes and Practices Towards Cervical Cancer in Nigeria
PSNPDABO25_027	Olugbake, O.A.	Olugbake, O.A., Ayeni, F.A., Akinola, A.A., Amajuoyi, T. K., Agboje, C. K.	The Use of the Internet and Social Media as a Health Information Tool among Healthcare Students in 6 Nigerian Universities
PSNPDABO25_028	Sebastine, I.	Sebastine, I., Judith, D., Emeka, O., Kenneth, N., Osezefe, E., Oluwaleke, J., Uchenna, I.	Authenticating Active Pharmaceutical Ingredients of Locally Manufactured Medicines in Nigeria, September 2024
PSNPDABO25_029	Titus, R. O.	Titus, R. O., Sigfrid, L., Afolabi,	Development of Standard Operating Procedures for Emergency Preparedness and Management of Community Pharmacies during Public Health Emergencies
PSNPDABO25_030	Atta, O. G.,	Atta, O. G., Adamu, I. N., Sunday, J. C., Ngwu E. S.	Evaluation of Top Performing Pharmaceuticals & their benefits in the Development and Growth of Community Pharmacy premises
PSNPDABO25_031	Agada, P.	Agada, P., Asieba, I., Ubaka C., Oladigbolu A., IlupejuT., Oluwaseyi, C., Ezeh, A.	Assessment of Community Pharmacists' Readiness for a National Career Progression Scheme in Nigeria
PSNPDABO25_032	Zayyanu, S	Anammah, A.O., Agusiobo, A.N., Abdulazeez, R., Timothy, M., Susan, A., Yewan, I., Sunday, A., Wole A. M., Zayyanu, S	Innovating Pharmaceutical Supply Chain: The Role of Smart-4PL in Improving Malaria Commodity Availability and Treatment Outcomes in Nigeria
PSNPDABO25_033	David, E. A.	David, E. A., Mua'zu, J. I., Zayyad, M, A., Hedima, E. W., Aderemi –Williams, R. I., Katagum, M. Y.	Glycaemic Control and Medication-Related Problems among Diabetic Patients in a Secondary Health Facility in Gombe State, Nigeria
PSNPDABO25_034	Onwuchuluba, E. E.	Onwuchuluba, E. E., Oyesiji, B. A., Nkemehule, F. E., Jideani, C.	Assessing Diabetes Risk Factors among Adolescent Students in Six Secondary Schools in Surulere Local Government Area (LGA), Lagos, Nigeria
PSNPDABO25_035	Udem, N. D.	Udem, N. D., Onoabedje, U.	Preparation and Evaluation of Ibuprofen, Glucosamin, Chondriotion and Bromelin Combination Cream from Tablets for Effective Pain Management.
PSNPDABO25_036	Onoabedje, U.	Onoabedje, U., Udem, N. D	Revalidation of a Expired donated Levetiracetam injection for management of Seizures in Peadiatric.
PSNPDABO25_037	Omotoso, A. E.	Omotoso, A. E., Chinaka, C. N., Graham- Douglas, E. A.	Post-Marketing Evaluation of some brands of Ciprofloxacin Eye Drops: Physicochemical Parameters, Antimicrobial Potency, and Regulatory Implications
PSNPDABO25_038	Mba, O. J.	Mba, O. J, Omodamiro, O. D, Ogbonna, B. O.	Hepatoprotective Effects of Ethanol Extract of *Abrus precatorius* in Lead acetate-induced Toxicity in Albino rats
PSNPDABO25_039	Tamunotonye, P. L.	Tamunotonye, P. L., Anyanwu, V., Ajibo, D. N., Obidake E.R.	The Analgesic and Hepatic Effects of the Hydroethanolic Extract of *Persea americana* Leaves in Wistar rats
PSNPDABO25_040	Anyanwu, V.	Anyanwu, V., Tamunotonye, P. L., Ajibo D.N., Obidake E.R.	The Analgesic and Hepatic Effects of the Hydroethanolic Extract of *Curcuma Longa* Rhizome in Wistar Rats.

PSNPDABO25_041	Otegwu, T.C.	Otegwu, T.C., Lamido, M. I., Ib	*In vitro* Evaluation of Antifungal activity of *Syzygium aromaticum* and *Allium sativum* extracts against *Candida albican* isolated from Clinical Samples
PSNPDABO25_042	Abdullahi M.	Abdullahi M., Hussaini, A.H., Jimoh, Y., Ndagi, U., Hamza, A.N., Ibrahim, Z.G.	Unveiling the Anti-Inflammatory Efficacy of *Boswellia dalzielii* : A Focus on Polyphenolic and Saponin to COX-2 Interactions through Computational Analysis
PSNPDABO25_043	Alemika, E. B.	Alemika, E. B., Anuka J., Anafi S. B.	Preclinical Investigation of an Antihistamine and Artemether-Lumefantrine Co-Administration on Biochemical and Histological Parameters in *Plasmodium Berghei* Berghei - Infected
PSNPDABO25_044	Adetunji, O. A.	Adetunji, O. A., Ibrahim, D.O.	Characterisation of Silicified *Dioscorea dumetorum* Starch Modified by Addition of Charged Amino acids at various pH Levels.
PSNPDABO25_045	Samaila, A.B.	Samaila, A.B., Bwala, J.A., Iji, M.E., Oduola, A.R., Okpanachi, G.O., Ohwoavworhua, F.O.,	Formulation and Evaluation of Salbutamol Oral Disintegrating Films Using Native and Modified Starches Obtained from Tubers of *Manihot Esculenta*
PSNPDABO25_046	Ohwoavworhua, F. O.	Ohwoavworhua, F. O., Kwarams	Aloe-Vera Derived Pharmaceutical Hydrocolloid; Isolation, Characterization and Its Application as a Stabilizer in Oil-in Water Emulsions

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 001

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Pharmacy Practice and Regulatory Compliance in Nigeria: A Cross-sectional Assessment of Stakeholder Operations

Okwori, J.M.[1*], Oseni, Y.O.[2],

[1]Victory Drugs, Festac Town, Lagos, Nigeria
[2]Department of Clinical Pharmacy and Pharmacy Administration, Faculty of Pharmacy, Lead City University, Ibadan, Nigeria

Corresponding author: Joseph Michael Okwori, Email: okworijosephmichael@gmail.com
https://orcid.org/0000-0002-1718-7815

ABSTRACT

Background: Pharmacy practice plays a crucial role in healthcare delivery, particularly in low- and middle-income countries where health systems are under-resourced. The evolution of pharmacy into a patient-centered profession requires adherence to regulatory and professional standards. However, regulatory compliance in Nigeria often falls short of global expectations.

Objective: This study aimed to assess the state of pharmacy practice and regulatory compliance among pharmacists in Southwest Nigeria and provide evidence-based recommendations for strengthening compliance in Nigeria.

Methods: A cross-sectional survey was conducted among 349 pharmacists, involved in retail, wholesale/distribution, manufacturing, and importation in Southwest Nigeria, using stratified and convenience sampling methods. Data were collected with structured and pretested questionnaire which surveyed presence of superintendent pharmacists, licensing status, practice activities, ethical sales and control in the pharmacist's absence. Descriptive and logistic regression analyses were performed.

Results: Of 327 respondents (93.7% response rate), most were males (59.6%), with mean age of 44.8 years and 62.1% held bachelor of pharmacy degree while 81.0% were retail pharmacists. Superintendent pharmacists are present in 93.3% of pharmacies and 77.3% possessed current licensure from the Pharmacy Council of Nigeria (PCN). Only 38.2% reported recent regulatory inspections. When pharmacists were absent in retail practice, control of sales of ethical products is primarily managed by staff calling the pharmacist before proceeding with sales (66.0%). Others included oversight by pharmacy technicians (21.1%), closing the ethical section (20.8%), or allowing sales attendants to handle sales (12.8%).
The overall regulatory compliance score was 73.3% (median: 75%, IQR: 63.6 – 81.2), highest among wholesale/distribution outlets (79.4 ± 9.7%). Regulatory compliance was significantly associated with state of practice and license status.

Conclusion: Regulatory compliance in Nigeria pharmacy practice remains suboptimal. Strengthened regulatory oversight, improved inspection systems, and enhanced professional accountability are essential for ensuring compliance and safeguarding public health.

Keywords: regulatory compliance, pharmacy practice, pharmacists, Nigeria, public health

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 002

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Paediatric Pharmaceutical Care: Gateway to Optimising Patients Care Outcomes

Authors: Ronari, C.O., Magbodo, U. T., Obidake, E. R.

Corresponding author: Ronari, C. O. | Tel: 0731074179, ruthprecious22@gmail.com

ABSTRACT

Introduction: Paediatric pharmaceutical care, a subspecialty of pharmacy, focus on ensuring safe and effective medication use in children, who are particularly vulnerable to medication errors. This study evaluates the effect of pharmacy-led interventions in optimising paediatric therapy and improving patient outcomes.

The study aimed to reduce medication errors, resolve drug therapy problems (DTPs), identify important tools for pharmaceutical care, improve medication safety and efficacy in paediatric patients, and evaluate the effect of paediatric pharmaceutical care interventions.

Method: A 36-month retrospective study was conducted in the Paediatric Pharmacy Unit of the Federal Medical Centre, Yenagoa. Data were collected from pharmaceutical care interventions register for patients aged 0–18 years and evaluated using standard references (including Paediatric Emdex and, BNF for Children). Descriptive and comparative analyses were performed.

Results: Seven out of eight classes of DTPs were identified. The most frequent were “dosage too low” (38%) and “dosage too high” (36%). Others included unnecessary drug therapy (6.6%), potential drug-drug interactions (6.6%), non-adherence (6.3%), and need for additional therapy (4.3%). Adverse drug reactions were least reported. Overall, a 97% positive response rate to pharmacist interventions was recorded.

Conclusion: Pharmaceutical care plays a vital role in increasing paediatric drug therapy outcomes. This demonstrates the positive impact of pharmacist-led interventions in resolving DTPs, enhancing medication safety, and supporting the developing of structured, evidence-based guidelines for paediatric pharmacy practice.

Keywords: Paediatric pharmaceutical care; medication safety; drug therapy problems; patient outcomes; pharmaceutical interventions; clinical pharmacy.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 003

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Outcome of Pharmacist-led Intervention on Medication Adherence and Asthma control among Asthmatic Patients Attending Respiratory Clinic at National Hospital Abuja.

Olalekan Oluleti[1], Bilikisu Bello Maiha[2], Shafiu Mohammed[2]

[1]Department of Pharmacy, National Hospital Abuja
[2]Department of Clinical Pharmacy and Pharmacy Practice, Ahmadu Bello University, Zaria.

Corresponding Author: Olalekan Oluleti (oluletiglory@gmail.com)

ABSTRACT

Introduction: Asthma is a widespread disease affecting more than 300 million people globally. Adherence to management protocols is key to positive treatment outcomes. Pharmacists with their professional knowledge help in educating the patients to improve treatment adherence and outcomes. This study aimed to assess the impact of Pharmacist-led intervention on medication adherence and asthma control.

Objectives: To assess symptoms and medication use among asthmatic patients, estimate the sample prevalence of medication non-adherence and its causes and evaluate the outcome of Pharmacist-led intervention on medication adherence and asthma control.

Methods: It was a pre/post – interventional study carried out at the MOPD clinic among 49 consented patients with primary diagnosis of asthma. Convenience sampling was used. Participants received targeted pharmacist-led intervention in form of medication adherence counseling and were monitored via mobile phones. Chi square test, Wilcoxon signed rank and McNemar tests were used. Statistical significance was set at $p \leq 0.05$.

Results: Majority of the patients were females, had family history of asthma and cough was the major symptom experienced pre-diagnosis. Asthma exacerbations was more frequent in cold weather, dust was the most common trigger. Salbutamol inhaler was the commonly used medication. Pre-intervention, most of the patients showed poor (21; (42.9%) and medium adherence (26; (53.1%); only 4.1% showed good adherence and 95.7% were uncontrolled. Forgetfulness, daily/continuous use of medication and use of herbal remedies were reasons for non-adherence ($p<0.05$). Post-intervention, patients with good adherence increased to 32, (76.2%) ($p<0.05$) and patients with controlled asthma increased to 25, (59.5%) ($p<0.001$).

Conclusion: Pharmacist-led intervention improved medication adherence and symptoms control in asthmatic outpatients.

Keywords: Asthma, Medication adherence, pharmacist-led intervention, symptoms control.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 004

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Evaluating the Prescribing Pattern of Antibiotics at Massey Street Children's Hospital

Adedoyin Adebayo-Tukur*, Anthonia Okosun, Olufemi Akinmeji

Department of Pharmacy, Massey Street Children's Hospital, Lagos.

Corresponding author email: doyintukur@yahoo.com

ABSTRACT

Introduction: The need for assessing and intricately evaluating the pattern of antibiotic use to detect antibiotic misuse and prevent antibiotic resistance “super bugs” is quintessential within the pediatric age group.

Objectives: To evaluate the prescribing pattern and utilization of antibiotics in children using the WHO prescribing indicators and to assess the use of antibiotics based on the WHO AWaRe classification.

Methods: A descriptive, cross-sectional, retrospective study was conducted on prescription order forms received in the Pharmacy from all units within the facility over 12 months (January 1 to December 31, 2024). Data collection was guided by a modified WHO prescribing indicator form, ensuring uniformity in evaluating prescribing practices. The resulting data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20. Those with incomplete patient details and illegible handwriting were excluded.

Results: A total of 6642 prescription orders were screened, with 2460 eligible prescriptions that were analyzed. A higher male preponderance of 55%, toddlers were observed to have a higher prescription of drugs (35%) than other age groups. Cephalosporins (51.8%), Penicillins (27.7%), and fluoroquinolones(2.3%) were commonly prescribed as a single antibiotic. The mean drugs per encounter was found to be 3.2 in contrast to the WHO standard of 1.6-1.8. while injections were 18.2% of prescriptions. Most of the drugs prescribed (60.5%) were from the watch list on the WHO AWaRe classification, and 39.5% were on the access list.

Conclusion: Prescribing patterns, prevalence of drug use, and utilization of antibiotics within the facility were in contrast with the ideal standards as set by the WHO, which were suggestive of polypharmacy. Therefore, the need for prescribers' education and an antimicrobial stewardship program spearheaded by pharmacists in the Hospital

Keywords: Antibiotics, Children, Prescription, AWaRe

Abbreviations: AWaRe (Access, Watch, and Reserve)

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 005

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Evaluating the Prescribing Pattern of Antibiotics at Massey Street Children's Hospital

Adedoyin Adebayo-Tukur*, Anthonia Okosun, Olufemi Akinmeji

Department of Pharmacy, Massey Street Children's Hospital, Lagos.

Corresponding author email: doyintukur@yahoo.com

ABSTRACT

Introduction: The need for assessing and intricately evaluating the pattern of antibiotic use to detect antibiotic misuse and prevent antibiotic resistance “super bugs” is quintessential within the pediatric age group.

Objectives: To evaluate the prescribing pattern and utilization of antibiotics in children using the WHO prescribing indicators and to assess the use of antibiotics based on the WHO AWaRe classification.

Methods: A descriptive, cross-sectional, retrospective study was conducted on prescription order forms received in the Pharmacy from all units within the facility over 12 months (January 1 to December 31, 2024). Data collection was guided by a modified WHO prescribing indicator form, ensuring uniformity in evaluating prescribing practices. The resulting data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20. Those with incomplete patient details and illegible handwriting were excluded.

Results: A total of 6642 prescription orders were screened, with 2460 eligible prescriptions that were analyzed. A higher male preponderance of 55%, toddlers were observed to have a higher prescription of drugs (35%) than other age groups. Cephalosporins (51.8%), Penicillins (27.7%), and fluoroquinolones(2.3%) were commonly prescribed as a single antibiotic. The mean drugs per encounter was found to be 3.2 in contrast to the WHO standard of 1.6-1.8. while injections were 18.2% of prescriptions. Most of the drugs prescribed (60.5%) were from the watch list on the WHO AWaRe classification, and 39.5% were on the access list.

Conclusion: Prescribing patterns, prevalence of drug use, and utilization of antibiotics within the facility were in contrast with the ideal standards as set by the WHO, which were suggestive of polypharmacy. Therefore, the need for prescribers' education and an antimicrobial stewardship program spearheaded by pharmacists in the Hospital

Keywords: Antibiotics, Children, Prescription, AWaRe

Abbreviations: AWaRe (Access, Watch, and Reserve)

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 006

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Drug Distribution System in Nigeria: Stakeholders' Perceptions, Policy Awareness, and Recommendations for Reforms

Oseni[1*], Y. O., Okwori[2], J. M.

D[1]*Department of Clinical Pharmacy and Pharmacy Administration,
Faculty of Pharmacy, Lead City University, Ibadan, Nigeria
yejideoseni@yahoo.com; oseni.yejide@lcu.edu.ng
https://orcid.org/0000-0003-2031-6689

[2]Victory Drugs, Festac Town, Lagos, Nigeria
joemike0996@gmail.com
https://orcid.org/0000-0002-1718-7815

ABSTRACT

Background: In Nigeria, the drug distribution system is widely termed chaotic despite the development the National Drug Policy (NDP) and the 2012 National Drug Distribution Guidelines (NDDG), which aimed at establishing a well-ordered drug distribution system. This study evaluated stakeholder perceptions of the chaotic nature of Nigeria's drug distribution system and their awareness of relevant national policies.

Methods: A cross-sectional survey was conducted between August 2024 and March 2025 among 349 consenting pharmacists, including retailers, wholesalers and importers/manufacturers, selected through a combination of stratified and convenience sampling methods, and 36 regulators from the Pharmacy Council of Nigeria (PCN) and National Agency for Food and Drug Administration and Control (NAFDAC) in Southwest Nigeria. Two sets of semi-structured questionnaires were used to access respondents' perceptions of the drug distribution system, contributing factors to its disorganisation, and awareness of relevant national policies. Data were analysed with R (version 4.5.1) while frequencies, percentages, means and standard deviations were computed and p-value set at <0.05.

Results: A total of 327 pharmacists and 31 regulators responded to the questionnaires. Most respondents were males with a bachelor's or master's degree. Awareness of the NDP and NDDG was high among the pharmacists (85.9% and 73.1%) and regulators (90.3% and 71.0%), respectively.

A significant majority of pharmacists (91.4%) and all regulators (100%) believed the drug distribution system in Nigeria is chaotic. Contributing factors included poor implementation of existing laws (96.8%), non-professionals in business (96.8%) poor cooperation among stakeholders (96.8%), and open drug markets (95.7%). Also, 60% of retail pharmacists had patronized open drug markets, citing wider stock and cheaper prices. This patronage was significantly associated with perceived personal contribution to the chaotic system ($p < 0.001$) and lack of NDDG awareness ($p = 0.034$).

Conclusion: The study highlights widespread perceptions of chaos within Nigeria's drug distribution system, attributed to poor enforcement, open drug markets, and resource limitations. A coordinated multistakeholder reform is urgently needed to ensure a streamlined drug distribution in Nigeria.

Keywords: Drug distribution, pharmacists, Nigeria, National Drug Policy, regulatory systems

References:

- ✓ Federal Ministry of Health (FMOH)/ WHO. National Drug Policy 3rd Edition, (2021). https://policyvault.africa/wp-content/uploads/policy/NGA1477.pdf
- ✓ FMOH. National Drug Distribution Guidelines (NDDG), 2012 2nd edn. Federal Ministry of Health. http://www.health.gov.ng/doc/NDDG.pdf (accessed 5 October 2016)

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 007

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Enhancing Clinical Pharmacy Training in Resource-Limited Settings: An International Pharmacy Practice Residency Program with a Layered Learning Approach

Pounds T[1,3,*], Moye P[1], Nwassei A[1], Temedie T[3], Oreagba IA[4], Wannang NN[5], Oparah AC[2], Obono M[6], Ismael S[7], Akpovwovwo EE[8], Erekata AO[8], Oritsegbubemi NS[8], Onyebolise SI[8], Bello I[9], Onodugo C[10], Amuda-Oladeji B[11], Alabelewe RM[12], Odesanya RU[13]

ABSTRACT

Affiliations: [1]Mercer University College of Pharmacy and Health Sciences, Atlanta, Georgia, USA; [2]University of Benin, Department of Clinical Pharmacy and Pharmacy Practice, Nigeria; [3]University of Houston College of Pharmacy, Houston, Texas, USA; [4]Department of Pharmacology, Therapeutics and Toxicology, College of Medicine University of Lagos, Nigeria; [5]Department of Pharmacology and Toxicology, Faculty of Pharmaceutical Sciences, University of Jos, Nigeria; [6]Department of Pharmacy, National Orthopedic Hospital, Igbobi, (NOHI) Lagos, Nigeria; [7]Federal University Oye, Ekiti State, Nigeria; [8]Delta State University Teaching Hospital, Oghara, Delta State, Nigeria; [9]University of Ilorin Teaching Hospital Ilorin, Nigeria; [10]University of Nigeria Teaching Hospital, Ituku-Ozalla Enugu State Nigeria; [11]Lagos University Teaching Hospital, Idi- Araba, Lagos State, Nigeria; [12]Ahmadu Bello University Teaching Hospital. Shika. Zaria, Kaduna State. Nigeria; [13]Jos University Teaching Hospital, Jos, Plateau State, Nigeria

Background and Purpose: Pharmacy residency training is crucial for developing clinical competence; however, structured programs are scarce in resource-limited settings. The International Pharmacy Practice Residency (IPPR) Program was established to address this gap in Nigeria by implementing a layered learning model, where experienced practitioners mentor residents, who in turn precept students, thereby fostering a cascading mentorship. The program aimed to strengthen mentorship, workforce capacity, and patient-centered care within a structured, globally aligned training framework.

Methods: The pilot was implemented at the Delta State University Teaching Hospital (DELSUTH), which was developed through collaboration with the West African Postgraduate College of Pharmacists (WAPCP) and US pharmacy practice experts. Ten US board-certified pharmacists served as virtual coaches for four preceptors-in-training (PiT) and five local preceptors. Residents completed a two-year American Society of Health-System Pharmacists (ASHP) standard curriculum with longitudinal and elective rotations. Outcomes were measured by tracking medication therapy interventions, acceptance rates by physicians, and qualitative feedback from residents and students. Descriptive analyses summarized the number and type of interventions and teaching activities completed.

Results: A total of 215 pharmacist-led interventions were recorded, all of which were accepted by prescribers. Interventions improved medication optimization and patient safety. Preceptors demonstrated enhanced skills in teaching clarity, feedback quality, and clinical mentoring, reflected in increased positive trainee feedback over time (from 30% at baseline to 85% in the final phase). The model promoted interprofessional collaboration and capacity building.

Conclusions and Implications: The IPPR model demonstrates that structured, globally mentored residency programs can succeed in resource-limited settings, improving clinical and teaching competence. This model is scalable to other Nigerian and WAPCP institutions. Future work is focused on achieving ASHP accreditation and integrating advanced clinical research.

Keywords: Clinical pharmacy, residency training, layered learning, mentorship, Nigeria, workforce development, patient-centered care.

References:

1. Wright EA, et al. Am J Health-Syst Pharm. 2014;71:1292-1302.
2. West African Postgraduate College of Pharmacists. Residency Training Manual. 2022.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 008

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Understanding the Barriers to Diphtheria Vaccination in Nigeria: the Role of Socioeconomic Factors.

[1]Adeyemi Nimot A., [2]Alausa Muslimat O.

[1]Department of Pharmacy, Federal Medical Centre, Abeokuta. nimotadeyemi@gmail.com, +2348137011391
[2]ACES AFRICA. mo.alausa@gmail.com, +2348130547426

ABSTRACT

Background: Diphtheria remains a significant public health burden in low and middle income countries including Nigeria, largely due to suboptimal vaccination coverage. Routine diphtheria immunization in infancy is a cornerstone of disease prevention, yet recent outbreaks highlight persistent gaps in uptake.

Objective: To synthesize evidence on socioeconomic factors influencing low diphtheria vaccination uptake in Nigeria and explores community-level strategies to improve coverage.

Method: A general review of literature was conducted using PubMed, Google Scholar, NCDC surveillance reports, and WHO situation updates. Relevant keywords included diphtheria, vaccination, socioeconomic factors, and Nigeria.

Discussion: Recent outbreaks, particularly in Kano and other northern states, underscore persistent regional disparities in vaccination uptake. Socioeconomic barriers strongly affect vaccine uptake. Caregivers with limited financial resources often miss immunization appointments due to transport costs or inability to take time off work. Educational status shapes attitudes toward vaccination, with higher uptake observed in urban areas where access to accurate information is greater. Structural barriers, including inadequate healthcare facilities, poor road networks, unreliable electricity for vaccine storage, and shortages of trained personnel, further hinder access. Misinformation and distrust, often amplified in rural settings, also contribute to low coverage.

Conclusion: Nigeria's large population makes its vaccination performance critical to reducing the global diphtheria burden. Improving uptake requires addressing socioeconomic inequities through targeted public health education, engagement of community and religious leaders, strengthening of primary healthcare infrastructure, and provision of financial or transport incentives for low-income households. Tailored, locality-specific interventions are essential for building vaccine confidence and preventing future outbreaks.

Keywords: Diphtheria, Vaccination, Nigeria, Socioeconomic.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 009

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Assessing Readiness of Pharmacists for Electronic Prescription Systems in Nigeria

Omilani Aanuoluwa D[1], Alausa Muslimat O.[2]

[1] Faculty of Medicine, Health and Life Science, Swansea University, Wales.
[2] ACES AFRICA. mo.alausa@gmail,com, +2348130547426

ABSTRACT

Background: The introduction of Electronic Prescription Systems (EPS) brought a new dimension to medication management and pharmacy services in many high-income countries. In Nigeria, however, the shift away from paper-based prescriptions is slow and affected by infrastructural, technological and systemic obstacles. This study explores the awareness, perceptions and barriers of EPS implementation among pharmacists, to measure their readiness for adoption of this innovation in pharmacy practice and health services.

Methods: This qualitative research used semi-structured interviews and was conducted among 15 licensed pharmacists practising in Nigeria. Purposive sampling was performed to include a diverse range of pharmacy settings. Data were analysed thematically to determine key themes about EPS readiness, benefits. challenges, and recommendations.

Results: Six significant themes were identified to include awareness and knowledge of EPS, the challenge of paper-based prescriptions, perceived benefits of EPS, readiness to adopt EPS, barriers to adoption, and recommendations for successful implementation. Pharmacists acknowledged that EPS has benefits such as lowering prescription errors rates, improving tracking of medication and enhancing pharmaceutical care. However, poor digital infrastructure, lack of financial support, data security concerns and resistance to change are major barriers. Nevertheless, a strong and broad willingness to adopt EPS was evident among the pharmacists.

Conclusion: In general, pharmacists in Nigeria demonstrate a positive readiness for the adoption of electronic prescription systems (EPS). However, successful implementation will require addressing infrastructural gaps, improving digital literacy, promoting supportive policy frameworks, and ensuring active collaboration among key stakeholders, including government agencies. To facilitate sustainable integration of EPS nationwide, further research should incorporate the perspectives of other healthcare professionals and policymakers toward developing a comprehensive and context-specific implementation framework.

Keywords: Electronic Prescription Systems, e-prescribing, pharmacist readiness, Nigeria, digital health, health technology adoption.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 010

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Knowledge, attitude and practice of reproductive health medicines use among reproductive women across different levels of health facilities in Benue state

Idoko Chioma

ABSTRACT

Background: The utilization of Reproductive health medicines(RHMs) among women of reproductive age is essential and underscores the need for comprehensive health education and accessible family planning services.
Objective: This study therefore aimed to evaluate the knowledge, attitude and Practice(KAP) of the use of RHMs among women in the different levels of healthcare institutions and the prevalence rate.

Method: This was a descriptive cross-sectional study of women of reproductive age who assessed RHMs across the selected primary, secondary and tertiary healthcare facilities in Benue State. Information related to their age, Parity, KAP of RHMs use was obtained using a structured questionnaire. Data was collected before physician consultations and analysed using descriptive and inferential statistics. Data was analysed using the GenStat 17.0 software, and P values ≤ 0.05 were considered statistically significant.

Results: The results showed that women who assessed family planning were aged between 21- 30 years old across the facilities, in proportion of 64.4%, 56.7% and 58.5% in tertiary, secondary and primary health facilities respectively. While condoms were the most prevalent RHMs used and there was significant difference among the non-drug sources used. Health care professionals are the major sources of sex and reproductive health information and the mean scores across the different health facilities are 4.38, 4.31 and 4.34 respectively.

Conclusion: We observed apparent variations in the knowledge, Attitude and Practice of RHMs use in primary, secondary, and tertiary health care facilities. Engagement of education to enlighten women on RHMs use and development of strategies and policies to help meet specific contraceptive needs of clients in various hospital settings should be deployed.

Keywords: Reproductive health medicines, knowledge, attitude, practice, reproductive age

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 011

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Availability and Storage of Vaccines at Community Pharmacies in Northern Nigeria

Hamza[1,2] US, Umar[3] II, *Yalwa[4] MA, Sani[1,2] NA, Idris[1] MT, Jatau[5] AI, Adam[6] FH, Ahmad MH.

[1]Department of Clinical Pharmacy and Pharmacy Practice, Bayero University, Kano, Nigeria.
[2]Symbiosis Institute of Health Sciences, Symbiosis International University, Pune, India.
[3]Faculty of Pharmacy, University Sultan Zainal Abidin (UniSZA), Terengganu, Malaysia.
[4]Department of Pharmaceutical Services, Aminu Kano Teaching Hospital, Kano, Nigeria.
[5]Department of Health Tasmania
[6]Department of Pharmacy Technician, Emirates College of Health Sciences and Technology, Kabuga Satellite, Kano.
[7]Department of Medicinal Chemistry, College of Pharmacy, University of Michigan, Ann Arbor, Michigan 48109, USA.

ABSTRACT

Background: Vaccine-preventable diseases continue to pose public health threats. The availability and the proper storage of vaccines are essential in effectively controlling such diseases. Community Pharmacies remain part of the most accessible sources of medicines including vaccines. The developmental realities in Nigeria were believed to undermine the accessibility of qualitative vaccines. This study was carried out to assess vaccine availability and storage conditions at community pharmacies in northern Nigeria.

Method: A descriptive cross-sectional study was conducted among community pharmacies in Kano State, northern Nigeria, using convenient sampling. Information was collected using a 22-item pre-tested self-administered questionnaire. The investigators administered the questionnaire to the eligible participants through face-to-face interviews. The data was analyzed and reported using descriptive statistics.

Results: Sixty-three pharmacists (63) responded to the questionnaire showing a response rate of 88.7%. Of the 63 respondents, (85.7%) and (87.3%) of respondents stocked and dispensed vaccines in their pharmacies respectively. Also, (76.2%) of respondents acknowledged experiencing vaccines out-of-stock despite the majority (74.6%) having reliable sources of vaccines. Our findings showed poor storage management of vaccines as the majority (65.1%) responded to not having a thermometer for temperature monitoring and (63.5%) did not check the temperature of the fridge every day.

Conclusion: The community pharmacies in northern Nigeria experience frequent vaccine stock-outs and inadequate storage conditions, which may undermine the accessibility and effectiveness of the vaccines.

Keywords: vaccine, vaccine availability, vaccine storage, community pharmacies.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 012

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Influence of Gender and Educational Status on Patient asking Behaviour in Patient-Pharmacist Interaction in a Tertiary Health Institution in Nasarawa State Nigeria.

Salisu ,M.A** , Aribike,O.B*, Nuruddeen,S.Y*** and Shittu Zayyanu *.

* Department of Clinical Pharmacy, University of Abuja, Nigeria
*** Department of Pharmacology and Toxicology, University of Abuja, Nigeria.

** Corresponding author. Email: salisumohammedpham@gmail.com

ABSTRACT

INTRODUCTION: Patients with chronic illnesses such as diabetes mellitus, who do not adhere to medication instructions have significantly higher mortality and morbidity than those who adhere. Good patient- pharmacist communication has been shown to increase medication adherence among patients. One important factor that influences patient-pharmacist communication is the patient asking behavior.
The aim and objectives of this study was to evaluate the two (2) contextual cues that could influence patient asking behaviour and to determine whether these cues have effects on improving or otherwise the patient asking behaviour, which will increase patient medication adherence.

METHODOLOGY: This study was carried out in Fedetal Medical Center, Keffi, Nasarawa State Nigeria. Two observational check lists were used to observe the interaction between the pharmacists and patients. The Pharmacists observational check list was used to record the information provided to patients by the pharmacists regardless of whether the patients spontaneously sought for the information or not. The patient observational check list was used to record patient gender and patient educational status.

RESULTS: Three hundred and sixty (360) patient encounters were recorded and investigated. (Out of the 360) patients observed only 63, (17.5%) asked questions. Out of the sixty three, 14 (22.2%) were not literates while the remaining 49(77.8%) were literates. Out of the 49(77.8%) that asked questions and were literates, 12(19.1%) had primary education, 20(31.8%) went to secondary school and 17(27%) were either students of tertiary institutions or graduates.
Also, out of the 63(17.5%) that asked questions, 31(49.2%) were males while 32(50.8%) were females.

CONCLUSION: Patient asking behaviuor, regardless of patient gender or educational status is generally unsatisfactory in the Health institution (Federal Medical Center, Keffi, Nasarawa State Nigeria).It is therefore recommended that education of the public on the need to ask their pharmacists important questions pertaining to their medication for their illness regardless of their gender or educational status should be considered.

KEY WORDS: Communication, patient asking behaviour, chronic illness, adherence.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 013

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

Assessment of Knowledge and Awareness of Human Papiloma Virus and Cervical Cancer among Female Healthcare Students in 400 and 500-Level Students at Madonna University, Elele

Nnamani MN[1*], Osuafor NG[2], Ikede PO, Onwumah MU[1], Egere EC[1], Ogbonna BO[3], Abere TA[4], Nnamani Vc[5]

[1]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, Madonna University, Elele, Rivers State.
[2]Department of Clinical Pharmacy and Pharmacy Administration, Faculty of Pharmaceutical Sciences, University of Abuja.
[3]Department of Clinical Pharmacy and Pharmacy Practice, David Umahi Federal University of Health Sciences, Uburu, Nigeria.
[4]Department of Pharmacognosy, Faculty of Pharmacy, University of Benin, Benin City, Nigeria.
[5]Department of Clinical Pharmacy, Faculty of Pharmacy, SRM University, Chennai, India.

* Corresponding author: mnnenna.nnamani@gmail.com +2347031039682

ABSTRACT

Background: Cervical cancer, primarily caused by persistent human papillomavirus (HPV) infection, remains a significant public health challenge in Nigeria. Therefore, healthcare students play crucial role in prevention.

Objectives: To assess the knowledge, awareness, attitudes, and practices regarding HPV and cervical cancer among female healthcare students in upper levels at Madonna University.

Methods: A descriptive cross-sectional survey was conducted among 250 healthcare students in upper levels at Madonna University, Elele Campus. Data were collected using a structured questionnaire and analyzed using SPSS version 25.0. Correlations were tested using ANOVA and χ^2 with significance set at $p<0.05$. Ethical approval was obtained, and informed consent was obtained from participants.

Results: 97.6% of have heard of HPV and its connection to cervical cancer. Of these, 89.2% were aware of HPV vaccination. The knowledge of Pap-smear and HPV testing were 76.0% and 60.0%, respectively. Preventive measures, however, were inadequate; only 17.2% had received HPV vaccinations, and 26.0% had received any screening ($p < 0.0001$). High cost (35.2%) and lack of symptoms (33.6%) were the primary obstacles to uptake ($p = 0.0010$). The most reliable information sources were medical textbooks (37.2%) and healthcare professionals (35.6%) ($p < 0.0001$). Willingness remained strong in spite of practice gaps: 56.4% planned to advocate prevention in their future practice, and 85.2% were

prepared to get vaccinations.

Conclusion: These findings depicted high knowledge but low preventive practices a call for improved education, subsidised services, and stronger awareness to bridge the gap in cervical cancer prevention. However, the he need for enhanced curricular content, subsidised preventive services, and targeted awareness campaigns to bridge the gap between knowledge and practice, strengthening students' roles in cervical cancer prevention in Nigeria.

Keywords: HPV; Cervical cancer; Knowledge and awareness; Female healthcare students; Nigeria.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 014

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

Addressing Health Workforce Emigration and Leveraging Global Migration to Strengthen the Healthcare System in Nigeria

Okafor U.G[1*], Eze, O. P[2], Onwuchuluba E. E[3] , Oseni, Y.O[4], Obiakor, N. M[5]

[1]Department of Global Health and Bioethics, Euclid University, Bangui, Central African University
[2]Enugu State Office, Pharmacy Council of Nigeria, Enugu, Enugu state, Nigeria.
[3]Department of Clinical Pharmacy & Biopharmacy, Faculty of Pharmacy, University of Lagos, Lagos, Nigeria
[4]Department of Clinical Pharmacy and Pharmacy Administration, Faculty of Pharmacy, Lead City University, Ibadan, Nigeria.
[5]Department of Pharmaceutics and Pharmaceutical Technology, University of Lagos, Nigeria

*Corresponding author: Ukamaka Gladys Okafor
Department of Global Health and Bioethics, Euclid University, Bangui, Central African University.
okafor@euclidfaculty.net
+2348033253463

ABSTRACT

Background : Health workers' migration contributes to disrupting health systems. There is limited evidence about the best ways to manage the health workforce emigration. The study examined strategies for addressing the negative effects of health workforce emigration, retaining skilled health workers, and leveraging global migration to strengthen Nigerian health systems from stakeholders' perspectives.

Methods: The study employed an exploratory qualitative design, utilizing in-depth interviews with seventeen(17) stakeholders from health regulatory agencies and professional associations. We purposefully sampled the major categories of health workers affected by migration, including nurses(1), pharmacists(7), optometrists(2), radiographers(2), medical laboratory scientists(1), and medical doctors(4). The data collected were transcribed, coded, and then thematically analyzed. The Standards for Reporting Qualitative Research Checklist guided the presentation of the findings.

Results: Thematic analysis revealed four main themes and fifteen subthemes. The key strategies for addressing the challenges and adverse effects of health worker emigration were increasing funding for health professionals' education and training, optimizing workforce distribution and efficiency, establishing retention mechanisms, and strategic engagement of emigrated health professionals. Subthemes included expanding undergraduate admissions, developing innovative training and practice models, strengthening partnerships between educational institutions and healthcare systems, increasing recruitment and ensuring immediate replacement of departed healthcare providers, developing policies to encourage service in underserved areas, and instituting realistic task-shifting and task-sharing models.

Conclusion: The study has identified key strategies for retaining the health workforce, optimizing the benefits, and mitigating the consequences of international health worker migration. Urgent steps are needed by the Nigerian government and professional associations to implement these strategies and strengthen the health system.

Keywords: Stakeholders' Perspective, Health worker emigration, Health Workforce Retention, Health system strengthening, Nigeria

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 015

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Community Pharmacists Enhanced Tuberculosis Case Detection and Management Following an Interventional Training in Lagos, Nigeria

Oreagba I. A[1*] Okafor U.G[2,] Atulomah N[3]

[1] Department of Pharmacology, Therapeutics, and Toxicology/ Professor, College of Medicine, University of Lagos, Idi-Araba, Lagos, Nigeria
[2] Department of Global Health and Bioethics, Euclid Univeristy, Bangui, Central African Republic
[3] Department of Public Health Babcock Univeristy, Ilishan Remo, Ogun State, Nigeria.

*Correspondence: Oreagba A. I.; Department of Pharmacology, Therapeutics, and Toxicology/ Professor, College of Medicine, University of Lagos, Idi-Araba, Lagos, Nigeria
Email: aoreagba@unilag.edu.ng

ABSTRACT

Background and purpose: The need for private sector involvement in tuberculosis case detection and management stems from patients' reluctance to deal with the associated stigma, their high demand for immediate symptom relief and unwillingness to pay for or endure the time of medical consultations in public health facilities. Community pharmacies, often being the first place people with symptoms seek care, are well-positioned to assist in early disease detection. Therefore, this study aimed to determine the level of community pharmacists' engagement in TB case detection and management after training in Lagos, Nigeria.

Methods: The one-day interventional training on TB case detection and management was conducted among 191 community pharmacists, followed by development of an action plan and endorsement of a commitment to action by the participants. The trained community pharmacists were periodically monitored, virtually and through visits, to strengthen referral linkages and document post-training activities over five consecutive months. Thereafter, another questionnaire was administered to evaluate the impact of the training on their practices. Data were analyzed using SPSS version 17.

Results: A significant correlation was found between community pharmacists' involvement in TB case detection and management ($r = 0.128$; $p < 0.05$) and their improved abilities following training. Among the respondents, 112 (71.3%) indicated that they would like to keep providing referral services, while 73 (46.5%) suggested that pharmacists engaged in referral services should receive incentives. Additionally, a vital link ($r = 0.223$, $p<0.05$) exists between community pharmacists' involvement in tuberculosis case detection and management.

Conclusions and implications: The community pharmacists with the appropriate training significantly increased their knowledge and participation in tuberculosis case detection and management. There is a need for further research and strengthening of the community pharmacists' role in early TB case detection, referrals, and management.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 016

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Strategies to Prevent Medication Errors in Telepharmacy: A Systematic Review

Abdulkadir Salahuddeen Ibrahim,[1, 2,] Adeniji Busayo Monsurat,[3] Ukemenam Sarah Obianuju, [4]Abdullahi Hafsat Ahmed,[1,5]

[1]Education and Scientific Research Committee of Association of Hospital and Administrative Pharmacists of Nigeria (AHAPN) Abuja Branch.
[2]Rubochi General Hospital, Rubochi, Abuja.
[3]Asokoro District Hospital, Asokoro, Abuja.
[4]Wuse District Hospital, Wuse, Abuja.
[5]Nyanya General Hospital, Nyanya, Abuja.

Email: rghpharm@gmail.com, ahapnabujabranch@gmail.com

ABSTRACT

Background: The rapid adoption of telepharmacy has transformed medication delivery and pharmaceutical care, especially in remote and underserved areas. However, the risk of medication errors remains a significant concern necessitating effective prevention strategies.

Aim: This systematic review aimed to identify, summarise and analyse strategies employed to prevent medication errors in telepharmacy practice and identify their reported effectiveness.

Methods: A systematic literature search was conducted between 2010 and June 2025 in PubMed, Scopus, Google, Web of Science, using keywords such as 'telepharmacy,' 'medication errors,' 'interventions,' and 'patient safety.' Studies were selected based on inclusion and exclusion criteria and systematically analysed following the PRISMA protocol. Pooled estimates were calculated using random models.

Results: Out of 2,411 records identified, 8 articles met the eligibility criteria. Findings revealed strategies like clinical decision support systems (CDSS) (pooled effectiveness = 63.3%, n = 4 studies), electronic prescribing verification tools (pooled effectiveness = 47%, n = 3 studies), remote pharmacist consultations (pooled effectiveness = 73%, n = 2 studies), standardized communication protocols (pooled effectiveness = 53.5%, n = 4 studies), and patient education initiatives (pooled effectiveness = 81.5%, n = 3 studies). Notably, barriers such as technology limitations (pooled estimated incidence = 63%, n = 4 studies), regulatory constraints (pooled estimated incidence = 44%, n = 2 studies), and communication gaps (pooled estimated incidence = 84%, n = 5 studies) were frequently reported.

Conclusion: Current evidence suggests that while telepharmacy can enhance medication safety, its effectiveness in preventing errors largely depends on the integration of supportive technologies, workflow redesign, and stakeholder engagement. Future research should focus on developing standardized protocols and evaluating long-term outcomes of these preventive strategies in diverse telepharmacy settings.

Keywords: Telepharmacy, Medication Errors, Prevention Strategies, Remote Pharmacy Services

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 017

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Pharmacists as Catalysts for Integrating Primary Health Care and Public Health: A Global Perspective

SM Musa[1]*, MS Muhammad[2] DM Ahmad[3] IM Ibrahim[4] GM Khalid[4]

[1]Department of Pharmaceutics and Industrial Pharmacy, Faculty of Pharmaceutical Sciences, Ahmadu Bello University, Zaria
[2]Faculty of Pharmaceutical Sciences, Ahmadu Bello University, Zaria, Nigeria
[3]Department of Clinical Pharmacy and Pharmacy Practice, Ahmadu Bello University, Zaria
[4]Faculty of Pharmaceutical Sciences, Mewar University, India
[5]School of Life Sciences, Pharmacy and Chemistry, Kingston University London, United Kingdom

ABSTRACT

Background: Primary Health Care (PHC) emphasises on accessible individual care focusing on prevention and early interventions, while Public Health (PH) targets population-level disease prevention and health promotion. Integrating PHC and PH is critical to addressing systemic healthcare gaps and advancing universal health coverage (UHC). Despite pharmacists' central role in healthcare delivery, their contributions to integrating PHC and PH remain underexplored.

Aim: This study reviews pharmacists' roles within integrated PHC-PH models and evaluates their impact on PH outcomes globally.

Methods: A narrative literature review was conducted and qualitative synthesis approach were employed, focusing on thematic insights.. Literature was searched using PubMed, Web of Science, and Google Scholar databases. . Studies meeting inclusion criteria on pharmacists' roles in integrated models and demonstrating positive health outcomes were selected and critically analysed s.

Results: The review of relevant 61 articles showed that pharmacists improve quality of life through medication therapy management in clinical settings in the United States and Canada by enhancing adherence and reducing hospitalizations. In Malaysia and Brazil, pharmacists manage communicable and non-communicable diseases, contributing to better disease control and reduced morbidity. In Nigeria, pharmacists provide screening for terminal illnesses, immunization, and family planning services through proof-of-concept projects, enabling early detection and greater healthcare access. Collectively, these roles advance progress toward universal health coverage by expanding care access and lowering disease burden. Nonetheless, significant gaps remain in regulatory frameworks and training, especially in developing countries like Nigeria. Additionally,, these findings reflect qualitative synthesis highlighting regional contributions.

Conclusions: Pharmacists' accessibility and expertise position them as vital agents in bridging PHC and PH to improve disease prevention and health promotion. However, challenges such as insufficient policy support and training gaps remain, particularly in developing countries. Policymaker engagement and investment in pharmacist training are essential to fully leverage their potential in integrated health systems.

Keywords: Pharmacists, Primary Health Care, Public Health, Universal Health Coverage, Disease Management, Preventive Services

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 018

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Assessment of Knowledge, Attitude & Practice of Nutritional Intake Among Adult Hypertensive Patients Accessing Care in A Tertiary Hospital In Abakaliki, Ebonyi State

*Igboke, E.E[1] & Uro-Chukwu, H.C[2,3]

[1]Department of Pharmaceutical Services
Alex Ekwueme Federal University Teaching Hospital, Abakaliki
[2]Department of Medical Biochemistry
Alex Ekwueme Federal University, Ndufu-Alike, Ikwo, Ebonyi State
[3]Department of Community Medicine
Ebonyi State University, Abakaliki

ABSTRACT

Background & Purpose: Hypertension is a major public health concern globally and in Nigeria, with nutrition playing a central role in its management. Although dietary modification is proven effective, adherence to nutritional recommendations remains low, particularly in resource-limited settings. There are limited data on the knowledge, attitudes, and practices (KAP) of hypertensive patients` adherence to nutritional recommendations in Ebonyi State, hence this study.

Methodology: A hospital-based cross-sectional study was conducted among 383 hypertensive adults aged ≥18 years attending follow-up clinics at the Medical Outpatient Department of Alex Ekwueme Federal University Teaching Hospital, Abakaliki (AEFETHA). Data were collected using a validated, structured, interviewer-administered questionnaire covering socio-demographic characteristics, knowledge, attitudes, and dietary practices. Analysis was done with SPSS version 25.0, and results presented using frequencies and percentages.

Results and Discussion: Of the total number of respondents, 55.4%, had three meals daily, among which, 45% regularly consumed breakfast. However, 54.6% ate their last meal after 8 pm, and 48.3% reported snacking between meals. Palm oil was the predominant cooking fat (52.5%), and seasoning cube use was common (46.5%). Boiling was the main cooking method (61.6%), and 41.5% rarely ate outside the home. Only 13.6% had a good dietary history, while 84.9% were rated fair. In terms of KAP, 73.4% demonstrated good dietary knowledge, 55.6% had positive attitudes, but only 13.8% showed good practices. The main source of dietary information were from the attending Physicians in 46.7% of cases, while dietitians accounted for fewer responses.

Conclusion: Hypertensive patients at AEFUTHA exhibited high knowledge and moderately positive attitudes, but poor dietary practices, marked by late-night eating, use of saturated fat, and high sodium intake. Addressing this knowledge–practice gap requires stronger nutrition counseling, greater involvement of dietitians, and culturally adapted dietary models such as the Mediterranean diet to improve hypertension control in Nigeria.

Key Words: Hypertension, Nutrition, Knowledge, Attitude, Practice

Empirical Reference:

Batubo N.P; Moore, J.B & Zulyniak, M.A (2023) Dietary Factors & Hypertension risk in West Africa: a systematic review & meta-analysis of observational studies. Journal of Hypertension, 41 (9): 1376-1388. Doi: 10.1097/HJH.0000000000003499

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 019

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Mobile Authentication Service: A Dual Stakeholder Analysis in Lagos State

Aiyegbajeje[1]* K.J, Soremekun[1] R.O, Aina[1] B.A.

[1]Department of Clinical Pharmacy and Biopharmacy, University of Lagos.

ABSTRACT

Background: In 2012, the National Agency for Food and Drug Administration and Control (NAFDAC) introduced the Mobile Authentication Service (MAS) to combat falsified medicines in Nigeria. This study assesses the acceptance and use of MAS, along with the perceptions and experiences of two of its primary stakeholders: community pharmacists and consumers.

Methods: A sequential exploratory design combining qualitative and quantitative methods was used, guided by the Technology Acceptance Model (TAM). The study included 14 community pharmacists (CPs) and 479 consumers in Lagos State, Nigeria. Qualitative data obtained from the CPs were analysed to generate key themes, while quantitative data obtained from the cross-sectional survey of the consumers were analysed using Microsoft Excel and SPSS (version 28), employing inferential statistics.

Results: Although MAS is a versatile technology, its use was found to be limited primarily to authentication of affected medicines by the consumers, as mandated by NAFDAC. The study revealed low awareness (58.7%) and minimal consistent use (4.8%) of MAS among the target population. Key limitations to its adoption included unreliable, delayed, or absent responses, often due to the Global System Mobile (GSM) and other infrastructural inadequacies.

Conclusion: Compared to earlier literature, the results of this study indicated a consistent decline in MAS awareness, use and stakeholder trust. This is primarily attributed to a reduction in public awareness campaigns and the persistent issue of unreliable or non-existent responses to authentication inquiries. The study highlights the need for MAS being made a more consistently promoted and managed system used along with other technologies and tools to effectively leverage technology in the fight against falsified medicines.

Keywords: Substandard medicines, Authentication, Stakeholders, Perceptions, Lagos Nigeria.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 020

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Evaluation of Pharmacovigilance and Factors Associated with Adverse Drug Reaction Reporting: A Case Study at Military Healthcare Facilities in South West, Nigeria

Amidu IM[i, iii]*, Oreagba Ia[ii]

[i]661 NAF Hospital, Ikeja, Lagos.
[ii]College of Medicine, University of Lagos 12003 Idiaraba, Lagos.
[iii]Faculty of Public Health Pharmacy, West African Postgraduate College of Pharmacists, Yaba-Lagos.

*Corresponding Author's Email: pharmibrahim89@gmail.com

ABSTRACT

Background: Medication safety underpins quality healthcare, and pharmacovigilance (PV) ensures medicine safety. Despite its importance, underreporting of adverse drug reactions (ADR) persists, and military healthcare facilities remain underrepresented in PV research. This study is the first to evaluate PV within a military setting.

Objective: We assessed PV knowledge, attitudes, and factors influencing ADR reporting among healthcare professionals (HCPs) in military healthcare facilities in South West Nigeria.

Methodology: A cross-sectional survey was conducted across 31 military healthcare facilities. A validated questionnaire was administered online to eligible HCPs actively involved in patient care and selected by stratified random sampling. Data were analyzed in STATA v11 using descriptive statistics, chi-squared tests, and multivariate logistic regression ($p < 0.05$).

Results: Of 430 eligible HCPs, 351 participated (81.6%). The mean age was 32 ± 8 years with equal gender distribution. Good PV knowledge was demonstrated by 73.2% of participants, and 97.2% exhibited positive attitudes; however, only 26.2% had reported ADRs. Major barriers included lack of awareness (64.4%) and complex reporting procedures (16.8%). Pharmacists had superior PV knowledge ($p < 0.001$), and HCPs aged < 30 years reported ADRs more frequently ($p = 0.033$). Regression analysis identified pharmacist designation (OR = 4.33; 95% CI = 1.44–13.07) and prior reporting experience (OR = 2.17; 95% CI = 1.21–3.89) as predictors of good PV knowledge. Age < 30 years predicted positive attitudes (OR = 6.60; 95% CI = 1.38–31.50).

Conclusion: Despite high PV knowledge and positive attitudes, ADR reporting remains suboptimal. Training, simplified reporting workflows, digital systems, and policy reforms mandating PV frameworks are recommended. Collaborative engagement among military leadership, regulators, and PV units will be essential to sustain improvements and enhance medication safety in military healthcare settings.

Keywords: Pharmacovigilance; Adverse Drug Reactions; Reporting Systems; Healthcare Professionals; Medication Safety; Military Healthcare; Nigeria.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 021

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Clinical Pharmacist Intervention in Identifying and Resolving Drug Therapy Problems in the Intensive Care Unit of a Tertiary Hospital in South-South Nigeria

Timipre O.A [1]*, Owonaro P.A[1], Eniojukan J.F[1], Sounyo A[1], Awala E.D[1], Brisibe F.S[2]

[1]Faculty of Pharmacy, Department of Clinical Pharmacy and Pharmacy Practice, Niger Delta University, Amassoma, Nigeria.
[2]College of Health Sciences, Department of Family Medicine, Niger Delta University, Amassoma, Nigeria.

Corresponding author: Timipre O.A*

ABSTRACT

Background and Purpose: Drug Therapy Problems (DTPs) compromise therapeutic outcomes, particularly in Intensive Care Units (ICUs). This study aimed to determine the types of Drug Therapy Problems (DTPs) identified and the acceptance rate of interventions proposed by clinical pharmacists in the ICU of Federal Medical Centre (FMC), Bayelsa State.

Methods: A one year prospective observational study was conducted among critically ill patients admitted at the general Intensive care unit (ICU) of FMC at the stipulated period of study which is from July 1, 2023, to July 1, 2024. A non-probability convenience sampling was used to recruit patients from the ICU. Data collection involved a prospective chart review and participation in ward rounds to gather patient demographics. A customized questionnaire was developed to capture demographic information, which was then integrated with PCNE classification version 9.1. The combined questionnaire was used to collect data from patients.

Data were analyzed using descriptive statistics (frequencies, percentages) with IBM SPSS Version 25.

Results: A total of 162 patients were screened for DTPs. 657 DTPs were identified, making it an average of 4.1 DTPs per patient. The most common was drug interactions 50.5%, followed by dose selection at 28.5%, then drug selection at 18.3% and adverse drug reactions at 2.74%. Clinical Interventions were undertaken at three levels of intervention: patient level 39%, drug level 29.07%, prescriber's level 24.32% and others at 7.61% Out of the 657 interventions 480 interventions were proposed for approval from the prescribers, out of which 35.42% were accepted by the prescribers while 64.6% were rejected. Amongst the DTPs identified, 28.36% n=75 were accepted and successfully resolved. But physician's acceptance was low 71.64% (n=405).

Conclusions and implications: Clinical pharmacists successfully identified a high prevalence of DTPs in the ICU. However, the low physician acceptance of interventions emerged as a significant barrier to their resolution. The study concludes that while pharmacists play a crucial identification role, fostering interprofessional collaboration and improving intervention acceptance are critical to translating these activities into improved patient outcomes. This study's findings have significant implications for clinical practice, the need for institutional policies to formalize clinical pharmacist roles in the ICU and for interprofessional education to enhance collaborative practice.

Keywords: Clinical pharmacist, Drug therapy problems, Intensive care unit, Intervention, Patient outcomes, Pharmacist-physician collaboration.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 022

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Information and Communication Technology in Drug Dispensing: Acceptance and Challenges among Pharmacy Staff in Southeast Nigeria

Okonkwo,[1*]C.A, Ogbo,[2] P.U., Ejiofor,[1] C., Ugwuda,[1] C., Onyema,[1] C., Ukwuaba,[1] R., Adinna,[1] C., Ugwu,[1] A., Agu,[3] P., Okechukwu,[4] C.

[1]Department of Pharmacy, Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Ebonyi State, Nigeria
[2]Department of Clinical Pharmacy and Biopharmacy, Faculty of Pharmacy, University of Lagos, Akoka, Lagos State, Nigeria
[3]Department of Pharmacy, University of Nigeria Teaching Hospital, Enugu, Enugu State, Nigeria
[4]Department of Pharmacy, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State, Nigeria

ABSTRACT

Background: Prompt service delivery through timely prescription validation and dispensing are ways the hospital pharmacist directly improves patient care, health outcomes and healthcare systems. Introduction of Information and Communication Technology (ICT) in drug dispensing (e-dispensing) in hospital pharmacies is a strategy for improving prompt service delivery, accuracy, enhanced efficacy and improved patient experience. This study assessed the acceptance and challenges of e-dispensing across multiple health facilities in southeastern Nigeria.

Methods: A cross-sectional study was conducted among 207 pharmacy staff conveniently recruited from UNTH, AE-FUTHA and NAUTH. Data were collected proportionately from the study settings using a pre-tested and validated, structured, self-administered online questionnaire. Statistical analysis was performed using SPSS version 25.0. Categorical variables were analyzed using the Chi-square test. Inferential statistics were used to determine statistical significance.

Results: Of the 209 respondents, 119 (57.5%) were pharmacists, 164 (79.2%) held a B.Pharm as their highest degree, and 114 (55.1%) were female. The largest age group was 20-29 years (106 respondents; 51.2%). The overall acceptance score for e-dispensing was 6.37 (±2.42). Acceptance levels were categorized as high (91; 44%), moderate (44; 21.3%), and low (72; 34.8%). Key reported benefits included convenience and time efficiency (168; 81.2%) and improved documentation (167; 80.7%). However, major challenges were identified, such as difficulties navigating the software (193; 93.2%) and network issues (181; 87.4%). Despite these challenges, nearly all respondents (99%) believed they were resolvable. A statistically significant difference in acceptance scores was observed between pharmacists and interns. Furthermore, correlation and linear regression analyses indicated that acceptance increases by 0.042 units for each one-year increase in age.

Conclusion: The study revealed relatively high acceptance of e-dispensing in Southeast Nigeria tertiary hospitals with an acceptance score of 6.37. The fact that the respondents believed that the challenges are resolvable is an indication that acceptance level can increase over-time.

Keywords: ICT, Acceptance, Challenges, e-dispensing, Pharmacy staff, Southeast Nigeria

*Corresponding Author
Okonkwo Chioma Assumpta
Chiomaokonkwo2003@gmail.com
+234 806 490 8513

This original study was inspired by the work of: Nduka, *et al,* 2022

Nduka, S., Mercy, N and Nduka, I. (2022). Telepharmacy services in a developing country: Nigerian community pharmacists' and patients perspectives on the clinical benefits, cost and challenges. Telemedicine Journal and E-health, 29. Doi:10.1089/tmj.2022.0385

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 023

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Assessment of Willingness of People Living with HIV (PLHIV) to Transit from Daily Oral to Bimonthly Injectable Medication: A Cross-Sectional Study in Osun State Nigeria

M. Olu-lawal[1] , K. Awogbemi[2] , E. Ojo[2] , B. Alaka[1] , D. Ajayi[1] , N. Ibikunle[1] , B. Ayewa[1] , I. Latona[3] , M. Olaoluwa[4] , T. Adeyemi[1] , O. Oyewale[4] , T. David[5] , U. Abdussalam[6] , M. Adebayo[7] , Y. Ajadi[8] , K. Raji[9] , A. Ademisoye[10], O. Olu-Lawal[11], A. Coker[2] , F. Bello[1] , O. Ajayi[4] , F. Adeyemi[1]

[1]State Specialist Hospital, Pharmacy, Osogbo, Nigeria,
[2]Obafemi Awolowo University, Clinical Pharmacy, Ile-Ife, Nigeria,
[3]State Hospital, Pharmacy, Ilesa, Nigeria,
[4]OAUTHC, Pharmacy, IleIfe, Nigeria,
[5]State Hospital, Pharmacy, Ede, Nigeria,
[6]State Hospital, Pharmacy, Ile-Ife, Nigeria, 7State Hospital, Pharmacy, Ikire, Nigeria,
[8]UNIOSUN Teaching Hospital, Pharmacy, Osogbo, Nigeria,
[9]Howard University Global Initiative, Osogbo, Nigeria,
[10]Lead City University Pharmacy, Ibadan, Nigeria,
[11]Olbee Consulting Services, Osogbo, Nigeria.

ABSTRACT

BACKGROUND: The success of antiretroviral therapy and general well-being of people living with HIV/AIDS (PLHIV) is dependent on adherence. The development of long-acting injectable anti-retroviral is a promising novel alternative to daily oral regimen. This is expected to improve adherence, especially among patients who find it challenging to adhere to daily medications. The objectives of this study were to assess the willingness of PLHIV in Osun State to accept bimonthly injectable ART and to identify other factors that influence ART preferences.

METHODOLOGY: A cross-sectional survey was conducted among 1,209 PLHIV attending HIV clinics in ten hospitals. Total sampling method was adopted as all adult patients who came for refill of their drugs participated in the study. The participants responded to structured questionnaires, and data were analyzed using SPSS version 26. The study was conducted in ten hospitals across Osun state. Ethical approval was obtained from the State Ministry of Health

RESULTS: The respondents responded to questions about missing their medications and how often they miss them. 43% of respondents had varying levels of non-adherence to ARV medications, and 69.3% preferred bimonthly injections to oral medications. Convenience and eliminating forgetfulness were key factors influencing this preference. However, 27% preferred daily oral medications due to familiarity and safety concerns.

CONCLUSION: Most PLHIV preferred long-acting injectable ART to oral medications, citing convenience and adherence as key factors. Giving PLHIV the freedom to choose between bimonthly injectable ART and daily oral medications could improve treatment outcomes and patient satisfaction.

RECOMMENDATION

- Give PLHIV freedom to choose between bimonthly injectable ART and daily oral medications.
- Implement interventions to improve adherence among PLHIV, such as counseling and treatment support.
- Consider factors influencing ART preferences when instituting bimonthly injectable ART.

This study provides invaluable insights into the preferences and needs of PLHIV, informing the development and implementation of long-acting injectable ART in Osun State, Nigeria. The findings highlight the need for patient-centered approaches to improve treatment outcomes.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 024

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Awareness and Practice of Routine Deworming among Students of the University of Benin

*Aika IN[1], Simon-Eigbe SI[1]

[1]Department of Clinical Pharmacy and Pharmacy Practice,Faculty of Pharmacy, University of Benin, Benin City, Nigeria.
*Email: isabel.aika@uniben.edu

ABSTRACT

Background: Intestinal worm infections remain a global health burden, particularly in developing countries like Nigeria with the second highest prevalence of intestinal worms globally. This study assessed the perception and practice of routine deworming among students of the University of Benin, Nigeria.

Methods: A cross-sectional study involving students from the University of Benin was conducted between November 2024 and January 2025. Raosoft online sample calculator was used to calculate the sample size to be a minimum of 370 with 5% margin of error population of 10,000, 50% response rate and 95% confidence interval. 400 students were recruited from seven science departments of the University of Benin to participate in the study. Data collection tool was a pretested structured questionnaire adopted from literature review. Ethical approval was gotten from the Ethics and Research committee of the Faculty of Pharmacy, University of Benin. Data were analyzed using SPSS version 27 with descriptive statistics.

Results: More than half [344 (86%)] of the respondents have heard about intestinal worm infections and [270 (69.8%)] are aware about their modes of transmission. Majority of the students [361 (90.3%)] have heard about deworming and [305 (76.3%)] agreed that regular deworming is important. Most of the respondents [304 (76%)] however believed that deworming should be done every year or more. More than half [228 (57.2%)] reported that they have not dewormed for the past two years, while [106 (26.5%)] of them claimed they have never dewormed.

Conclusion: Although awareness and importance of deworming was high, practice of deworming was poor among students. Institutional programs should be integrated into university health systems to improve deworming rates.

Keywords: Deworming, Intestinal worm infection, Students, University, Health

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 025

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Knowledge, Perception and Practice of Pharmaceutical Waste Disposal among the Public in Lagos State, Nigeria

Adedeji-Adenola H[123*], Adesina A[24], Obono M[2], Onedo T[25], Okafor GU[26], Longe M[27], Oyawole M[28]

[1]Pharmaceutical Sciences, School of Health Sciences, University of KwaZulu-Natal, Durban, South Africa
[2]Association of Hospital and Administrative Pharmacists of Nigeria, Lagos State, Nigeria
[3]Pharmaceutical Services, Lagos State Primary Healthcare Board, Lagos State, Nigeria
[4]Department of Pharmaceutical Services, Howard University Global Initiative, Lagos State, Nigeria
[5]Department of Pharmacy, National Orthopaedic Hospital, Igbobi Lagos State, Nigeria
[6]Pharmacists Council of Nigeria, Lagos Zonal Office, Yaba, Lagos State, Nigeria
[7]Department of Pharmacy, Onikan Health Centre, Yaba, Lagos State, Nigeria
[8]Department of Pharmacy, Lagos State University Teaching Hospital, Ikeja, Lagos State, Nigeria

Corresponding Author: Halimat Adedeji-Adenola, Pharmaceutical Sciences, School of Health Sciences, University of KwaZulu-Natal, Durban, South Africa.
Email: yembol2011@yahoo.com

ABSTRACT

Background and purpose: Pharmaceutical waste poses significant environmental and public health risks, accelerating antimicrobial resistance, contaminating water sources, and undermining ecological balance. Despite increasing drug consumption, disposal practices remain largely unregulated. Empirical studies confirm the effectiveness of pharmacist-led medicine take-back and awareness programs. This study examined knowledge, perceptions, and practices regarding pharmaceutical waste among Lagos residents, with implications for how pharmacists can build a future-ready workforce for climate resilience and public health transformation.

Methods: A descriptive cross-sectional survey was conducted among 534 adults (≥18 years) across Lagos State using a structured electronic (Google form) questionnaire. The questionnaire was piloted among 20 respondents, reviewed, validated and distributed via social media. Ethical approval was obtained from LASUTH REC: LREC/06/10/1533. Data were analysed using SPSS v.24, applying descriptive statistics and chi-square tests ($p \leq 0.05$).

Results: Less than half of respondents (49.6%) were aware of pharmaceutical waste, with an average knowledge score of 43.8%. Disposal practices were largely unsafe: 73.2% discarded medicines in household garbage, and 19.3% flushed them. Nearly 94% believed that public information is inadequate, and 78% had never received disposal advice from health professionals. Pharmacists were identified as key agents in bridging this knowledge gap and implementing community-based take-back programs.

Conclusions and Implications: The findings reveal a critical gap in knowledge and practice of the respondents. Pharmacists can transform disposal practice into an opportunity for sustainable healthcare leadership. Integrating take-back programs, structured education, policy advocacy, and sustainable practice models. Pharmacists can reposition themselves as frontline actors for climate-smart health systems. Integrating waste disposal into pharmacy curricula and professional development will build a future-ready workforce capable of advancing environmental health and climate resilience.

Keywords: Pharmaceutical Waste, Pharmacists, Ecopharmaco vigilance, Climate Resilience, Public Health, Waste Management, Nigeria.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 026

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Female Pharmacy Students' Knowledge, Attitudes and Practices Towards Cervical Cancer in Nigeria

Williams, F. E. [*1], Obiekezie, A. C.[1], Fatade, M. F.[1], Ojurongbe, R. B.[1], Oyemomi, M. D.[1], Eniayewu, O. I.[2], Aika, I. N.[3], Adje, D. U.[4]

[1]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, University of Ilorin, Ilorin, Nigeria.
[2]Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmaceutical Sciences, University of Ilorin, Ilorin, Nigeria.
[3]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, University of Benin, Benin City, Nigeria
[4]Department of Clinical Pharmacy and Pharmacy Administration, Faculty of Pharmacy, Delta State University, Abraka, Nigeria

ABSTRACT

Background and purpose: Female pharmacy students (FPSs) have crucial roles to play in successful implementation of cervical cancer (CCa) prevention strategies. Information on knowledge, attitudes and practices of FPSs towards CCa in Nigeria is scanty. This study assessed health knowledge (HK), attitudes and practices of FPSs towards CCa in Nigeria.

Methods: This multi-center cross-sectional study was conducted in six federal universities offering pharmacy degree programs in six geopolitical zones in Nigeria from January to August 2024 after ethical approval. Data was collected from 404 FPSs using pre-tested electronic questionnaire. Data analyses involved descriptive and inferential statistics (Chi-Square Test) with significance level set at $p < 0.05$. FPSs' HK was classified as good, fair and poor if > 80%, 60 -79.9% and < 60% of FPSs had accurate responses respectively. Attitude was classified as positive or negative if mean attitude was above or below weighted mean. Practices were classified as healthy or unhealthy if they promote good health or otherwise.

Results: Of the 404 FPSs, 71.62%, 59.6% 57.9% and 53.2% had good HK about CCa, its risk factors (RFs), prevention and treatment respectively. All FPSs had positive attitudes towards CCa, its RFs, prevention and treatment. Regarding healthy practices, less than 10% and 5% had received Human Papillomavirus (HPV) vaccination and screening for CCa respectively while 1% had received cisplatin for CCa management. Significant associations existed between FPSs' level of study and HK of CCa RFs ($P = 0.001$) prevention ($P = 0.003$) and treatment ($P = 0.001$).

Conclusions: FPSs in Nigeria had fair HK about CCa but it became poor regarding CCa RFs, prevention and treatment. Despite all FPSs had positive attitudes towards CCa, its RFs, prevention and treatment, their practices towards HPV screening and vaccination were unhealthy. Comprehensive CCa HK should be taught early as part of pharmacy education curriculum.

KEYWORDS: Health Knowledge, Attitudes and Practices, Human Papillomavirus, Cervical Cancer, Female, Pharmacy Students, Nigeria

REFRENCES

Elebiyo, O. T. (2023). Knowledge, attitude, and uptake of Human Papilloma Virus (HPV) vaccine among parents of adolescents attending outpatient clinic at the University of Benin Teaching Hospital, Nigeria. *PubMed*, *27*(3), 108–117. https://doi.org/10.29063/ajrh2023/v27i3.12

Surakatu, O. K., Onyeodi, I. A., & Balogun, M. R. (2022). Knowledge, Attitude and Practices of Cervical Cancer Screening among Female Teachers in an urban community in Lagos, Nigeria. *Nigerian Medical Journal*, *63*(3), 236–247. https://www.ajol.info/index.php/nmj/article/view/240839

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 027

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

The Use of the Internet and Social Media as a Health Information Tool among Healthcare Students in Six Nigerian Universities

Olugbake, O.A.,* Ayeni, F.A., Akinola, A.A.,. Amajuoyi, T. K., Agboje, C. K.

Department of Clinical Pharmacy and Biopharmacy, University of Lagos

Corresponding Author: Olubusola A. Olugbake, oolugbake @unilag.edu.ng

ABSTRACT

Background: The use of the internet and social media for health information, has increased among young adults, particularly students. While these platforms provide easy access, challenges like misinformation and credibility issues persist. This raises concerns about the potential impact on health behaviours. This study investigated the utilisation of the internet and social media as health information tools among healthcare students in six Nigerian universities, focusing on their health -seeking behaviours, the factors influencing their usage, and the challenges faced.

Method: A cross-sectional study design was employed, involving a survey of healthcare undergraduate students from six Nigerian universities. Data was collected using a Google Form. The questionnaire was adapted from the concepts of the Health Belief model and the Technology Acceptance Model. Descriptive and chi-square analysis was performed to assess the relationship between demographic and academic characteristics and the dependent variables: satisfaction, extent of social media use, perceived reliability, and the influence of social media health information. The confidence level was set at 95%, with p-values above 0.05 considered statistically insignificant.

Results: A total of 1273 respondents participated in the survey. All respondents use social media for health information, with majority spending an average of 3-5 hours daily on the internet and platforms like WhatsApp, Instagram, and Facebook.. Students mainly searched for general health tips (29.5%), symptoms and disease (26.4%) and treatment options (19.4%).

Challenges included assessing source credibility (18.7%), information overload (18.1%), lack of understanding of medical term (18.3%) and outdated information (14.7%). Age significantly impacted perceived reliability(p=0.04), and satisfaction from changes made based on online health information (p=0.001). Social media strongly influences health decisions. Satisfaction varied by university (p=0.00) and department (p=0.000), though gender showed no significant impact (p=0.33)

Conclusion: This study reveals that social media plays a significant role in health information access among Nigerian university students, with platforms like WhatsApp, Instagram, and Facebook being the most utilized. However, challenges such as interpreting medical terms and concerns about credibility persist. Social media's influence on health decision-making is notable, especially among higher-level students, emphasizing the need for clearer, reliable online health resources.

Keywords: Internet, Social-media, Health Information, Nigerian Universities, Healthcare Students.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 028

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Authenticating Active Pharmaceutical Ingredients of Locally Manufactured Medicines in Nigeria, September 2024

Sebastine I.,[1] Judith D.,[1] Emeka O.[1], Kenneth N.[2], Osezefe E.[3], Oluwaleke J.[3], Uchenna I.[3]

[1]Promoting Accreditation for Community Health Services, Project, Society for Family Health, Nigeria.
[2]Department of Pharmaceutical Chemistry, Nnamdi Azikiwe University, Awka, Nigeria.
[3]Solina Center for International Development and Research, SCIDaR.

Corresponding Author: Sebastine C. Ikejide - sikejide@sfhnigeria.org; 08033923252

ABSTRACT

Background and Purpose: marketing surveillance (PMS) is essential for ensuring drug quality and safety, especially in low- and middle-income countries with fragmented pharmaceutical supply chains. In Nigeria, a poorly regulated distribution system increases the risk of substandard or counterfeit medicines, undermining progress toward universal health coverage and Sustainable Development Goal 3.
This study evaluated the effect of controlled sourcing through a quasi–vendor-managed inventory (VMI) system on the quality of active pharmaceutical ingredients (APIs) in selected medicines.

Methods: A comparative observational study was conducted in Lagos and Kaduna states across 35 randomly selected outlets, including Tier 1 and Tier 2 Patent and Proprietary Medicine Vendors and community pharmacies. Samples of five commonly used tracer drugs including Nemoxil®, Emzor Paracetamol®, Levofem®, Postinor-2®, and Topmal® were collected. Each drug was subjected to sample preparation following the methods described by the USP (paracetamol, amoxicillin, levonorgestrel& ethinyl estradiol, lumefantrine), levonorgestrel (BP) and artemether and lumefantrine (IP) (USP, 2024, BP, 2024, IP, 2024). Samples underwent High-Performance Liquid Chromatography (HPLC) using a Hitachi Chromaster with diode-array detection. Descriptive statistics were generated for each sample. Baseline API percentage claims were compared with post-intervention results using independent t-tests ($p \leq 0.05$). Analyses were performed in Microsoft Excel 2019.

Results: Baseline testing showed 20% of samples have API levels outside accepted pharmacopeial limits. After implementation of the VMI intervention, all samples met standard ranges. Independent one- and two-tailed t-tests returned p-values > 0.05 at p=0.32, and p=0.64, respectively, indicating that observed differences between baseline and post-intervention means were not statistically significant. Notably, combined ethinyl estradiol/levonorgestrel formulations exhibited recurring inconsistencies at baseline.

Conclusion: Controlled sourcing via a vendor-managed inventory model improved the proportion of medicinesmeeting API quality standards, despite the absence of statistically significant differences. Strengthening private-sector supply chains and routine PMS are critical to safeguarding public health and advancing universal health coverage in Nigeria.

Key words: APIs, Medicines, PMS, HPLC, Supply Chain, Public Health

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 029

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Development of Standard Operating Procedures for Emergency Preparedness and Management of Community Pharmacies during Public Health Emergencies

TITUS[1] R. O., SIGFRID[2] L., and AFOLABI[1] M. O.

[1]Department of Clinical Pharmacy and Pharmacy Administration, Obafemi Awolowo University, OAU, Ile-Ife, Osun State.
[2]Policy & Practice Research Group, Pandemic Sciences Institute, University of Oxford, United Kingdom.

Corresponding author: rachel.titus@oauife.edu.ng, +2348033823194; ORCID Number: 0000-0003-4313-6023

ABSTRACT

Background and purpose: The COVID-19 pandemic caused upheavals in the business operations of community pharmacies whereas there are no available standard operating procedures (SOPs) for mitigating these challenges. The study sought to develop SOPs to fill this gap.

Methods: Based on the Grounded theory for exploring emerging issues, a mixed method was used to collect data from 329 community pharmacists in southwestern Nigeria during the COVID-19 public health emergency (PHE) after obtaining ethical approval. The best innovative strategies employed in managing challenges experienced were developed into SOPs. They were pilot-tested among 19 community pharmacists in Ile-Ife who used the SOPs during the last partial lockdown period in their pharmacies. The results and recommendations were used to improve the draft SOPs and shared on the national platform of the Association of Community Pharmacists of Nigeria's (ACPN) WhatsApp group via google form administration. Each SOP was evaluated against the criteria of clarity, potential to enhance emergency preparedness, and respondents' willingness for adoption for practice. Qualitative data were thematically analysed and IBM SPSS® Version-25 was used to analyse the quantitative data.

Results: Thirteen SOPs were developed covering tasks such as, getting to the office, work preparation, attending to customers, handling expanded services, home deliveries, payments, logistics, and infection prevention and control measures. A total of 132 ACPN members responded to the online evaluation form. Nearly three-quarters (62.9%) confirmed the non-existence of SOPs for managing community pharmacies during PHEs. Responses indicated that the SOPs were clearly written (94.5%), feasible (85.1%), align with existing regulations (90.3%), will improve emergency preparedness (91.8%), and most (90%) are willing to support adoption of the SOPs in community pharmacy practice in Nigeria.

Conclusions and implications: The set of SOPs will assist community pharmacists' preparedness during PHEs. The leadership of the ACPN, PSN and PCN could adopt the SOPs for policy and practice adoption by community pharmacists.

Keywords: Community pharmacies, public health emergency, emergency preparedness, standard operating procedures, COVID-19

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 030

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Evaluation of Top Performing Pharmaceuticals and their Benefits in the Development and Growth of Community Pharmacy Premises

Okoh Godwin Atta, Ibrahim Nuraini Adamu, Joy Chiagozie Sunday, Eunice Somadina Ngwu

Health Camp Pharmacy Plot 10b University Road Phase I Shopping Complex Opposite Ministry of Works, Gwagwalada Abuja.

healthcamp01@gmail.com, Ibrahimnurainiadamu8@gmail.com

ABSTRACT

Background : This study evaluates top-performing pharmaceuticals' impact on community pharmacy growth. Analyzing sales data, it identifies top-performing drugs (analgesics, antihypertensives, antibiotics, antifungals, and antidiabetics) and their benefits. The findings will inform pharmacy owners and stakeholders on product selection, marketing, and customer service to drive growth and development

Objectives

To help in

1. Inventory Management
2. Cost Control
3. Improved Customer Satisfaction
4. Enhanced Supply Chain Management
5. Better Decision-Making
6. Reduced Waste
7. Increased Efficiency

Methodology: This study employed a quantitative-based research design to investigate the impact of Top performing pharmaceuticals on the Growth and development of retail community pharmacy premises. A convenience sampling technique was used to select a sample of four quarter sales record in five well spread retail pharmacies in Gwagwalada Area Council- phase1, phase2, phase 3, Kuje road and Zuba. An online sales records were collected using android shopkite application.

Survey Instrument: The shopkite application prints records that includes number of sales, quantity of drugs, price of drugs and the drug class and for the purpose of this study, the focus is on the main five drug classes that includes antihypertensives, antidiabetics, antibiotics antifungals and analgesics.

Data Collection:
The sales records were collected for a period of 12 months, which were divided into first, second, third, and fourth quarter.

Data Analysis:
Descriptive statistics analysis was used to analyze the data.

Result:
The results show that, analgesics and antibiotics are the top-selling pharmaceuticals, with significant sales quantities across all quarters. Antihypertensives had a substantial spike in sales in the second quarter. Antidiabetics had relatively consistent sales across quarters.

These findings are consistent with previous studies that have analyzed pharmaceutical sales trends. For example, a study on global pharmaceutical sales trends found that analgesics and antibiotics are among the top-selling therapeutic categories (Journal of Pharmaceutical Research, 2022.). Another study on antihypertensive medication sales found that seasonal variations can impact sales, which may explain the spike in sales observed in the second quarter (Journal of Cardiovascular Medicine, 2020).

A study on antidiabetic medication sales found that consistent sales across quarters can be attributed to the chronic nature of diabetes, requiring ongoing treatment (Journal of Diabetes Research, 2019). Our study's findings on antidiabetic sales are consistent with this observation.

Conclusion
This study evaluated top-performing pharmaceuticals' benefits in community pharmacy growth. The findings provide insights into sales performance of essential drug groups. The study identified top-selling pharmaceuticals, evaluated their benefits, and informed inventory management strategies. The research highlights the importance of top-performing pharmaceuticals in improving customer satisfaction and efficiency, contributing to community pharmacy growth and enhanced patient care.

Keywords: Pharmaceutical sales analysis, inventory management, customer satisfaction, sales trends, therapeutic categories.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 031

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Assessment of Community Pharmacists' Readiness for a National Career Progression Scheme in Nigeria

Agada[1,3]P., Asieba[1,2*]I., Ubaka[1,4]C., Oladigbolu[1,2]A., Ilupeju[1]T., Oluwaseyi, C[1,2]., Ezeh[1,2]A.

[1]Community Pharmacists Assessment and Career Progression Institute (CPACPI)
[2]Association of Community Pharmacists of Nigeria (ACPN)
[3]Howard University Global Initiative Nigeria, Abuja, Nigeria (HUGIN)
[4]Department of Clinical Pharmacy, University of Nigeria, Nsukka

ABSTRACT

Background: Community pharmacists are integral to the Nigerian health system, but unlike other health professionals, they lack a structured career progression framework. The Association of Community Pharmacists of Nigeria (ACPN), in partnership with stakeholders, introduced the Community Pharmacists' Career Progression Scheme (CPCPS). This study assessed community pharmacists' willingness to enroll in CPCPS and explored motivating factors.

Methods: A descriptive cross-sectional study was conducted among a nationally representative sample of community pharmacists across Nigeria (n=182). Data were collected using a self-administered online questionnaire. Information on demographics, willingness to enroll, and motivations were gathered. Data were analyzed using SPSS version 26.

Results: Of the 182 respondents (mean age = 42.7 years, SD = 12.6; 61.5% male), 98.4% (n=179) expressed willingness to enroll in CPCPS. Key motivations included enhanced patient care (85.7%), professional growth (85.2%), collaboration opportunities (63.7%), financial incentives (52.7%), and formal recognition (45.1%). Respondents also expressed willingness to commit time and resources to the program (98%), believe the scheme will enhance patient care and professional development (90%), and are motivated to get on board and will recommend the scheme to a colleague (85%).

Conclusion: Community pharmacists in Nigeria expressed strong willingness to participate in a structured career progression scheme and it was mainly driven by professional development goals. Policymakers and stakeholders should leverage this momentum to institutionalize CPCPS and enhance pharmacy workforce development

Keywords: Career Progression, Enhanced Patient Care, Community Pharmacy, Collaboration, Pharmacy Practice

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 032

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Revolutionizing Malaria Supply Chains with Smart-4PL in Nigeria

Anammah[1], A.O., Agusiobo,[1] A.N., Abdulazeez[1], R., Timothy, M [1]Susan, A., Yewan, [I]., Sunday, A[1]., Wole A., M. and Zayyanu, S[1]*

[1]Multinational Expeditor Business Solutions Global, Nigeria.

Corresponding Author: Zayyanu Shitu. Email: szayyanu@mebs-gf.com

ABSTRACT

Background: Globally, Fourth-Party Logistics (4PL) services play a vital role in maintaining the safety, efficacy, and integrity of pharmaceutical products during delivery. In Nigeria, where weak infrastructure and fragmented supply chains have limited access to essential medicines, adopting a Smart-4PL model has enhanced malaria commodity distribution across 13 Global Fund–supported states. This study showcases MEBS Global's Smart-4PL intervention, guided by the Federal Ministry of Health, to enhance malaria pharmaceutical commodity distribution in Nigeria.

Methods: This descriptive evaluation analyzed routine distribution data, key performance indicators, and over 7000 facilities stock reports from January 2024 to August 2025. Smart-4PL interventions included deploying AI and blockchain for real-time visibility, using geo-coordinated tracking devices for 3PL traceability and compliance, applying market analysis with dynamic pricing to improve efficiency, and adopting data-driven dashboards for close monitoring and enhanced digital stakeholder engagement.

Results: Implementation of these interventions significantly improved supply chain performance. AI and blockchain technology showed improved integrity in delivery, with high route optimization, POD reliability, commodity traceability and regulatory compliance. Lead times for malaria routine insecticide nets and pharm products were shortened to below 10 Days/circle for both ITN and Pharma. Commodities on-shelf availability at facilities increased from above 95% for tracer commodities., Malaria products availability was improved, while stakeholders' satisfaction improvement above 90% for quality service delivery

Conclusions: The Smart-4PL model by MEBS Global, guided by the Federal Ministry of Health, improved malaria commodity distribution in Nigeria. Integrating AI, blockchain, and real-time tracking enhanced visibility, delivery integrity, and compliance. Lead times reduced, facility stock availability rose above 95%, and stakeholder satisfaction exceeded 90%. The model offers a scalable and sustainable approach for strengthening pharmaceutical supply chains and advancing malaria elimination goals

Keywords: 4PL, supply-chain, malaria commodities, key performance indicators, lead times, dynamic pricing strategies

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 033

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Glycaemic Control and Medication-Related Problems among Diabetic Patients in a Secondary Health Facility in Gombe State, Nigeria

David[1,2*], EA; Mua'zu, JI[1]; Zayyad, MA[2]; Hedima, EW[1]; Aderemi –Williams, RI[3]; Katagum, My[4]

[1]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, Gombe State University, Tudun Wada, Gombe State;
[2]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, Ahmedu Bello University, Zaria, Kaduna State,
[3]Department of Clinical Pharmacy and Biopharmacy, Faculty of Pharmacy, University of Lagos, Idiaraba Campus, Lagos;
[4]Department of Clinical Pharmacy and Pharmacy Administration, Faculty of Pharmaceutical Sciences, Sa'adu Zungur University, Gadau, Bauchi State

Mobile Phone Number: +2348039681589
Email address: emmagada@gsu.edu.ng or emmagada@yahoo.co.uk

ABSTRACT

Background: Achieving optimal glycaemic control is associated with preventing diabetes-related complications, but medication-related problems (MRPs) can significantly hinder attaining this goal. Patients receiving long-term medications for chronic diseases like diabetes frequently encounter MRPs.

Objectives: This study aimed to assess glycaemic control and estimate the prevalence of MRPs among diabetic patients in State Specialist Hospital, Gombe (SSHG).

Methodology: This study was a retrospective cross sectional audit of 374 prescriptions of adult (≥ 18 years) diabetic patients in SSHG between January 2023 and December 2024. Patient folders were randomly selected and socio-demography, clinical characteristics and details of prescribed medications were collected. The MRPs were categorized using Cipolle's classification. Other data was analysed using statistical package for social sciences (SPSS) version 27.0 and the outcomes were reported in frequencies and percentages.

Results: More than half of the patients were males, 200 (53.8%). Majority, 325 (86.9%) were ≥ 40 years, and married, 363 (97.1%), while nearly half, 186 (49.7%) had secondary education and 205 (54.8%) were civil servants. More than half of the patients, 220 (58.8%) had uncontrolled blood glucose and 212 (56.7%) had uncontrolled blood pressure, while more than three-quarters, 286 (78.6%) had comorbidities. Of the 374 patients' prescriptions screened, 318 (85%) had 637 MRPs. The most prevalent MRP was untreated indication (30.3%), where the patients needed additional therapy. This was closely followed by non-adherence to medication (22.2%), while dosage too high was the least observed MRP (6.4%).

Conclusion: This study revealed that more than half of the patients had poor glycaemic control, while untreated medical conditions and non-adherence to medications were the most frequently observed MRPs. Direct inclusion of pharmacists in diabetes care teams could reduce the number of MRPs and ultimately improve treatment outcomes.

Keywords: Glycaemic Control, Medication-Related Problems; Diabetic Patients; State Specialist Hospital; Nigeria

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 034

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Assessment of Awareness, Perception, and Anthropometric Profile of Adolescent Students in Six Secondary Schools in Surulere Local Government Area, Lagos, Nigeria

Onwuchuluba, E. E.,[1] Oyesiji, B. A.,[1] Nkemehule, F. E.,[2] Jideani, C.[1]

[1]Department of Clinical Pharmacy and Biopharmacy, Faculty of Pharmacy, University of Lagos
[2]Department of Pharmacognosy, Faculty of Pharmacy, University of Lagos

eonwuchuluba@unilag.edu.ng; +2348060636490

ABSTRACT

Background: Diabetes Mellitus (DM) is a growing global health concern, increasingly affecting young adolescents. In Nigeria, however, there is limited data on diabetes and its risk factors among this group. This study aimed to assess secondary school students' awareness, knowledge, and perceptions of diabetes risk factors.

Methods: This descriptive, cross-sectional, quasi-experimental design was conducted among 497 consenting secondary school students selected through convenience sampling. Data were collected using a pretested and validated structured questionnaire (Cronbach's alpha = 0.66) to assess students' awareness, perceptions, and diabetes risk factors. Anthropometric measurements (weight and height) were also obtained. Data were analyzed using SPSS version 27.0, employing both descriptive and inferential statistics, with the level of statistical significance set at $p < 0.05$.

Results: Of the 497 students, 69.8% were female, with a mean age of 15.5 ± 1.30 years. About 5.6% were overweight, with a mean waist-to-height ratio (WHtR) of 0.43 ± 0.07, and 6.2% had a moderate risk of diabetes. While 9.5% reported being told they had high glucose, 10.9% believed they had high glucose. A total of 8.7% had never heard of diabetes, 16.3% reported no regular exercise, and 5% and 2% consumed alcohol and smoked, respectively. Mean screen time was 4 ± 3.56 hours daily. Overall, 37% had good knowledge, while 96% and 97% demonstrated a positive attitude and perception toward diabetes. Misconceptions were common, with 42.9% believing diabetes to be contagious. Good knowledge (OR = 0.786, 95% CI: 0.64–0.95; p = 0.018) and a positive attitude (OR = 0.790, 95% CI: 0.68–0.90; p = 0.002) were significant predictors of improved perception. Male students had higher odds of a positive perception (OR = 3.200, p = 0.066), though this was not statistically significant.

Conclusion: While awareness of diabetes was high, knowledge of its risk factors and preventive measures was limited. The findings demonstrate the value of educational interventions and underscore the need to integrate diabetes education into school curricula to promote a healthier lifestyle.

Keywords: Diabetes, risk factors, adolescents, Perceptions, Anthropometric measurements, Nigeria

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 035

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Preparation and Evaluation of Ibuprofen, Glucosamine, Chondroition and Bromelin Combination Cream from Tablets for Effective Pain Management

Udem Ngozi Dorathy and Ufuoma Onabaedeje

Compounding Unit, Pharmacy Department of University of Nigeria Teaching Hospital Ituku Ozalla Enugu.
@doragoze@gmail.com

ABSTRACT

Background: Joint pain and loss of function are the primary symptoms of Rheumatoid Arthritis(RA). Tablets containing Ibuprofen, Glucosamine, Chondroition and Bromelain are commonly indicated for orthopaedic cases such arthritis, including RA, osteoarthritis and gouty arthritis. Topical creams offer a promising alternative, allowing for high drug concentrations at local sites, rapid pain relief with reduced side effects.

Aim: The objective is to formulate and evaluate a topical cream containing combination of Ibuprofen, Glucosamine, Chondroition and Bromelaine from their tablet dosage forms for the management of pain and inflammations.

Methodology: Hydrophobic components comprising emulsyfing wax, stearic acid and cetyl alcohol were weighed and heated to temperature of 70°C. The appropriate volume of water was also heated to 70°C. Each tablet (Ibuprofen, Glucosamin, Chondrotin and Bromelin) was cruched to a very fine powder and dissolved with 90% alcohol respectively. They were mixed in appropriate steps to formulate cream. Cream was evaluated for physical properties, speadability, pH and viscosity. The drug content was determined after pre treatment steps using ultra violet spectrophotometer at various wavelength. Ibuprofen, Glucosamine, Chondroitoin and Bromelaine content were determined at wavelength of 228nm using ethanol and water solvent, 240nm in sodium citrate, 232nm and 595nm using water as solvent respevtively. Microbial contamination was also carried out by inoculating the cream on various prepared selective agar media. The formulated cream was administered to ten patients, who reported back after a period of ten days for evaluation.

Results: A homogenous, milky and smooth cream was observed. It's viscosity and pH were 28,000 cps and 5.5. All drug content were within 98 – 100% which passed pharmacopeia requirement. Microbial contaminants including *Eschericia coli.* were all absence.

Conclusion: A cream combining multiple drugs was successfully formulated using the first principle method. It met pharmacopeia requirements including appearance ,pH, viscosity, and microbial standards. The cream exhibited acceptable drug content, indicating a high-quality product. With its effective formulation and lack of serious side effects such as gastro intestinal disturbances which are peculiar to non-steroidal anti-inflammatory drugs, patients are likely to experience good clinical outcomes, which can lead to improved adherence to the treatment regimen

Keywords: Cream, Compounding, Rheumatoid Athritis, Ibuprofen, Glucosamin, Chondrotin , Bromelin

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 036

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Revalidation of an Expired Donated Levetiracetam Injection for the Management of Seizures in Paediatric Patients

Onoabedje Ufuoma[1]* and Udem Ngozi Dorathy[1]

[1]Quality Control Unit, Pharmacy Department, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria

*Corresponding author: onoabedjeufuomashalom@gmail.com

ABSTRACT

Background: Drug expiration dates indicate the time beyond which the product's potency or safety can no longer be guaranteed, typically when the active ingredient falls to 90% or less of its labeled content. However, several studies have shown that certain drugs, especially those stored under recommended conditions, can retain 90–110% of their potency long after the expiration date. Levetiracetam is a broad-spectrum antiepileptic drug indicated for both monotherapy and adjunctive therapy of focal seizures, with or without secondary generalization [1]. In paediatric patients, treatment usually begins with 7 mg/kg daily, increased gradually to 7 mg/kg twice daily after one week, and further adjusted according to clinical response [2]. In some resource-limited settings, the unavailability of good-quality injectable Levetiracetam brands can hinder effective seizure control in children. This prompted the need to assess the quality and efficacy of a donated, expired batch of Levetiracetam injection for potential clinical use.

Aim: To evaluate the physicochemical quality and clinical efficacy of a donated expired Levetiracetam injection used in managing paediatric seizures at the University of Nigeria Teaching Hospital (UNTH), Enugu.

Methodology: The expired Levetiracetam injection was subjected to physicochemical evaluation, including physical inspection, pH determination, assay of drug content, and quantitative bacterial endotoxin testing.

Physical Examination: The sample was observed for clarity, color, and presence of particulate matter. pH Determination: pH was measured using a calibrated pH meter.
Drug Content Assay: Absorbance of diluted sample preparations was measured against a solvent blank using an ultraviolet spectrophotometer. The drug concentration was determined by comparing the sample's absorbance with that of a standard reference.
Bacterial Endotoxin Test: Quantitative endotoxin determination was conducted using the chromogenic kinetic method.
The injection was administered to paediatric patients with seizures in the Intensive Care Unit (ICU) at UNTH, and clinical outcomes were monitored throughout treatment.

Results: The injection sample was colourless, clear, and free of visible particles. The measured pH was 5.68, which is within the British Pharmacopoeia (BP) acceptable range of 5.5–6.5 [2]. The percentage drug content was 98.9%, meeting BP specifications of 95–105%. Bacterial endotoxin content was 0.009 EU/mg, well below the BP limit of 3.60 EU/mg. Clinically, the treated paediatric patients exhibited effective seizure control with no reported adverse reactions, confirming the retained efficacy of the expired product.

Conclusion: The expired Levetiracetam injection complied with all British Pharmacopoeia quality specifications, including physicochemical properties, pH, drug content, and bacterial endotoxin levels. The positive clinical outcomes further support that the product maintained sufficient potency and efficacy despite being beyond its labeled expiration date

Keywords: Levetiracetam, Physicochemical analysis, Drug potency, Expired drugs, Seizure management, Paediatrics

References

1. British National Formulary, 2017.
2. British Pharmacopoeia, 2024.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 037

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Post-Marketing Evaluation of Some Brands of Ciprofloxacin Eye Drops: Physicochemical Parameters, Antimicrobial Potency, and Regulatory Implications

Omotoso Abayomi E, Chinaka, Chioma N* and Graham- Douglas Esther A

Department of Medicinal and Pharmaceutical Chemistry, University of Port-Harcourt, Port-Harcourt, Nigeria.

***Author for correspondence:** Email: chioma.chinaka@uniport.edu.ng. Tel No: 0805 401 6639

ABSTRACT

Background and purpose: Ciprofloxacin eye drops are widely used for the treatment of bacterial ocular infections. However, variations in potency among different brands may compromise therapeutic effectiveness and promote antimicrobial resistance. This study evaluated the antimicrobial effectiveness and comparative efficacy of ten ciprofloxacin eye drop brands, focusing on their activity against clinically relevant ocular pathogens.

Methodology: Ten ciprofloxacin eye drop formulations (CA1–CA10) were evaluated using: physicochemical tests: visual inspection, volume, content uniformity, viscosity, relative density, refractive index, surface tension, weight, volume, pH, electrical conductivity, total dissolved solid of each drop, and microbial susceptibility testing against *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus* by the agar disc diffusion method. Minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined. Statistical analysis was performed using one-way ANOVA followed by Tukey's post-hoc test.

Results: With the exception of viscosity, electrical conductivity, and total dissolved solids, the tested brands passed the physicochemical tests. Furthermore, all the samples demonstrated appreciable antibacterial activity, with inhibition zones ranging from 22.5–26.0 mm (*E. coli*), 41.0–48.0 mm (*P. aeruginosa*), and 37.0–47.0 mm (*S. aureus*). ANOVA revealed significant inter-brand variability ($p < 0.001$ for all organisms). Tukey's test identified stronger activity in CA9, CA8, and CA10 compared to weaker formulations such as CA2, CA3, and CA7. MIC values were uniform against *P. aeruginosa* and *S. aureus* (0.075 µg/mL), but varied for *E. coli* (0.075–0.150 µg/mL). MBC values were largely consistent except for occasional variability against *E. coli*.

Conclusion: Although all ciprofloxacin eye drops tested retained antimicrobial activity within therapeutic ranges, statistically significant potency differences were observed across brands. These findings highlight the need for strict compliance with pharmacopeial standards and routine post-market surveillance to ensure pharmaceutical equivalence and prevent sub-therapeutic dosing that may lead to antimicrobial resistance.

Keywords: ciprofloxacin, physicochemical, antimicrobial, *P. aeruginosa*, post-market

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 038

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Hepatoprotective Effect of Ethanol Leaf Extract of *Abrus precatorius* in Lead Acetate-induced Liver Toxicity in Albino Rats

Mba O.J[1, 3], Omodamiro O.D[2], Ogbonna B.O.[3, 4]

[1]Department of Pharmacology and Toxicology, Faculty of Pharmaceutical Sciences, David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria.
[2]Department of Pharmacology and Toxicology, Faculty of Pharmaceutical Sciences, Kampala International University, Uganda.
[3]International Institute for Health Policy, Systems and Knowledge Translation. International Institute for Infectious Disease, Biosafety and Biosecurity Research, David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria
[4]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria.

*Corresponding author: Email: mbaoj@dufuhs.edu.ng. Phone: +2348060325776

ABSTRACT

Background and Purpose: *Abrus precatorius* is traditionally employed for various therapeutic purposes, such as treating malaria, convulsion, tetanus and preventing rabies. This study evaluated the hepatoprotective effect of ethanol leaf extract of *Abrus precatorius* (ELEAP) in lead acetate-induced liver toxicity in albino rats.

Methods: Thirty male albino rats of mean weight 110 g were divided into 5 groups of six rats each. Groups 1 – 3 were the normal control that received feed and water, lead acetate (100 mg/kg) and ELEAP only (400 mg/kg) respectively while groups 4 and 5 were lead acetate induced-toxicity groups that were orally treated with 200 and 400 mg/kg of ELEAP respectively. Treatment lasted for 28 days, after which the animals were sacrificed under mild ether anaesthesia. Blood samples were collected for biochemical analysis such as alanine aminotransferase (ALT), aspartate transaminase (AST), alkaline phosphatase (ALP), total bilirubin, albumin and total protein.

Results: The result from the study showed statistically significant ($p \leq 0.05$) decrease in ALT, AST, ALP, total bilirubin and albumin in the 200 and 400 mg/kg ELEAP-treated groups, when compared with the lead acetate -induced toxicity untreated group. In addition, there was statistically significant ($p \leq 0.05$) increase in the concentration of total protein in the 200 and 400 mg/kg ELEAP-treated groups, when compared with the lead acetate-induced toxicity untreated group.

Conclusion and implication: These findings showed that ELEAP possessed hepatoprotective activity in lead acetate-induced liver toxicity in albino rats, and thus could be utilized in the management and treatment of hepatic damage.

Keywords: Hepatoprotective, *Abrus precatorius*, lead acetate, toxicity, alanine aminotransferase, aspartate transaminase, alkaline phosphatase

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 039

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

The analgesic and hepatic effects of the hydroethanolic extract of *Persea americana* leaves in wistar rats

Tamunotonye Piriaye Levi, Anyanwu Victor, Ajibo Doris Nnenna, Obidake Ebiegberi Ruth

Corresponding Author: Tamunotonye Piriaye Levi | Tel: 08164587747, tamunotonyepiriaye@gmail.com

ABSTRACT

Introduction: *Persea americana* (avocado pear) is a medicinal plant with reported antioxidant, anti-inflammatory, analgesic, and hepatoprotective activities. Its leaves contain various phytochemicals that may contribute to these pharmacological properties.

Objectives: This study aimed to evaluate the phytochemical composition, analgesic, and hepatoprotective effects of *Persea americana* leaf extract (PAE) using experimental animal models.

Method: Fresh leaves of *Persea americana* were shade dried, pulverised, and macerated in 70% ethanol for 72 hours. The extract was concentrated and subjected to phytochemical screening. Seventy-five Wistar rats (150–180 g) were divided into three experimental models of analgesia: hot plate, acetic acid, and formalin methods. Each model involved 25 rats subdivided into five groups (n=5): control (distilled water), paracetamol (100 mg/kg), and PAE at doses of 100, 200, and 500 mg/kg, administered orally. Analgesic responses (paw licking, jumping, writhing, and formalin-induced pain) were measured. Liver tissues were harvested for enzyme assays (ALP, ALT, AST) and oxidative stress biomarkers (SOD, GSH, CAT, GPx, MDA).

Results: Phytochemical analysis revealed alkaloids, anthraquinones, cardenolides, tannins, flavonoids, and saponins. PAE significantly increased pain latency in the hot plate test and reduced writhing responses in the acetic acid and formalin models. The extract enhanced oxidative stress biomarkers (SOD, GSH, CAT, GPx) and reduced MDA levels. Liver enzyme levels (ALP, ALT, AST) were significantly lowered, suggesting hepatoprotection.

Conclusion: *Persea americana* leaf extract exhibits potent **analgesic** and **hepatoprotective** effects, possibly mediated through its phytochemical constituents and antioxidant mechanisms. These findings support its traditional medicinal use and highlight its potential for drug development.

Keywords: *Persea americana*, avocado pear, phytochemicals, analgesic activity, hepatoprotection, oxidative stress, liver enzymes.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 040

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

The Analgesic and Hepatic Effects of the Hydroethanolic Extract of *Curcuma Longa* Rhizome in Wistar Rats.

Anyanwu Victor, Tamunotonye Piriaiye Levi, Ajibo Doris Nnenna, Obidake Ebiegberi Ruth

Corresponding Author : Anyanwu Victor | 08135381662, victoranyanwu59@gmail.com

ABSTRACT

Introduction: *Curcuma longa L.* (Zingiberaceae), commonly known as turmeric, is widely recognized for its anti-inflammatory and antioxidant properties. Despite extensive pharmacological studies, its analgesic and hepatoprotective potentials require further evaluation.

Objectives: This study investigated the analgesic and hepatoprotective activities of the hydroalcoholic extract of *Curcuma longa* rhizome (CRE).

Method: Phytochemical screening of CRE was performed for alkaloids, anthraquinones, cardenolides, tannins, flavonoids, and saponins. Seventy-five Wistar rats (150–180 g) were divided into three analgesic models: hot plate, acetic acid, and formalin tests (25 rats each). Each model consisted of five groups: control (distilled water), paracetamol (100 mg/kg), CRE (100, 200, 400 mg/kg). Analgesic activity was assessed by latency time, writhing reflexes, and formalin-induced pain scoring. Livers were harvested for assays of liver enzymes (ALP, ALT, AST) and oxidative stress biomarkers (GSH, GPx, CAT, SOD, MDA).

Results: CRE significantly increased pain latency (2.47 min), reduced writhing (8.00) and formalin pain scores (0.00). Hepatoprotective effects were observed with reduced liver enzymes: ALP (11.00 u/L), ALT (10.00 u/L), and AST (6.00 u/L). Antioxidant activity was confirmed by increased GSH (1.520 µg/mL), GPx (0.074 µg/mL), CAT (1.670 u/g), and SOD (0.490 u/mL), with decreased MDA (0.220 µmol/mL).

Conclusion: The hydroalcoholic extract of *Curcuma longa* rhizome exhibits potent analgesic and hepatoprotective effects, likely mediated through its phytochemical constituents and antioxidant activity. These findings validate its traditional use and potential therapeutic value.

Keywords: *Curcuma longa*, turmeric, analgesic activity, hepatoprotection, oxidative stress, phytochemicals.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 041

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

In *vitro* evaluation of antifungal activity of *Syzygium aromaticum* and *Allium sativum* Extracts against *Candida albicans* isolated from clinical samples

Otegwu T.C.[1*,] Lamido M. I. [1], Ibrahim H. M.[2,]

[1]Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmaceutical Sciences, Gombe State University, Gombe, Nigeria.
[2]Department of Pharmacognosy and Drug Development, Faculty of Pharmaceutical Sciences, Gombe State University, Gombe, Nigeria.

[*]**Corresponding Author**: temitegwu@gmail.com, +2348035921523

ABSTRACT

Background: Fungal infections are a significant public health concern, with *Candida albicans* being one of the most common pathogenic fungi responsible. Garlic *(Allium sativum)* and clove *(Syzygium aromaticum)* have long been used in traditional medicine for their therapeutic benefits, including their antimicrobial effects.

Objective: This study aimed to evaluate the in *vitro* antifungal activity of ethanolic extracts from *Allium sativum and Syzygium aromaticum* against *Candida albicans*.

Method: Clinical isolates of *Candida albicans* were collected, identified, confirmed (macroscopic colony morphology assessment, microscopic examination via Gram staining, biochemical tests, such as germ tube formation and use of CHROM-agar Candida medium), purified and kept for the extract's evaluation. Fresh samples of *Syzygium aromaticum* and *Allium sativum* were collected, identified, and maceration extraction procedures were carried out using ethanol as solvent. The anti-fungal activity of the ethanolic extract of garlic/clove was determined using the agar well diffusion method, filled with 100 µl. 1mg/ml of Fluconazole was used as a control. All were incubated at 28 °C for 24 hours, and the results were taken.

Result: Quantitative and qualitative phytochemical analysis revealed the presence of alkaloids (1.65-1.75%), flavonoids (15.64-17.81%), saponins (1.45-2.26%), tannins (4.96-5.20%), and phenolic compounds (12.60-15.80%) in both extracts. Results showed that both clove and garlic exhibited dose-dependent antifungal activity, with garlic extract producing slightly larger zones of inhibition than clove at the same concentrations. The combination of equal concentrations of clove and garlic was also tested to evaluate synergistic effects. The highest antifungal activity (19 mm zone of inhibition) was recorded at the combination of 800 mg/ml of each extract, suggesting enhanced efficacy when used together.

Conclusion: Clove and garlic extracts exhibited notable antifungal effects against Candida albicans, with possible synergistic benefits. These results validate their traditional use and underscore their potential as alternative or supplementary antifungal options. Additional studies are advised to assess their effectiveness and safety in vivo.

Keywords: *Syzygium aromaticum*, *Allium sativum*, fungi, *Candida albicans*, ethanolic

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 042

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Unveiling the Anti-Inflammatory Efficacy of Boswellia dalzielii: A Focus on Computational Analysis of Interactions of Polyphenols and Saponin with COX-2 active site

Abdullahi M[1]*, Hussaini A.H[1], Jimoh Y[1], Ndagi U[2], Hamza A.N[1], Ibrahim Z.G[3]

[1]Department of Pharmaceutical and Medicinal Chemistry, Ahmadu Bello University, Zaria 810107, Nigeria
[2]Africa Centre of Excellence for Mycotoxin and Food Safety, Federal University of Technology, Minna, Nigeria
[3]Department of Clinical Pharmacology and Therapeutics, College of Medical Sciences, Abubakar Tafawa Balewa University, Bauchi, Nigeria

***Correspondence:** maryamabkif3@gmail.com; 08037036680

ABSTRACT

Background: Inflammation, is a critical physiological response that is linked to numerous chronic diseases. The development of effective anti-inflammatory agents with minimal side effects is therefore imperative. *Boswellia dalzielii*, a medicinal plant used in traditional West African medicine, is known for its anti-inflammatory properties. This research examines the anti-inflammatory potential of polyphenolic and saponin compounds extracted from *Boswellia dalzielii*.

Methodology: This study explored *in-silico* methods, to analyse the interaction selected phytochemicals in *Boswellia dalzielii* with the COX-2 enzyme. Twelve phytochemicals were screened using SwissADME for drug-likeness, Protox-II for toxicity profiles and autodock tools for binding affinities.

Results : The results revealed that polyphenolic compounds, particularly Lig4, exhibited strong binding affinities to the COX-2 active site, surpassing the native ligand Rofecoxib in inhibitory potential. Additionally, while saponins demonstrated moderate activity, they contribute to the overall therapeutic profile. Emphasis on Lig4 showed that it passed the Lipinski's rule of five with a molecular weight of 286.24 g/mol, hydrogen bond acceptor of 6, hydrogen bond donor of 4 and toxicity class of V.

Conclusion: These results not only confirm the traditional applications of *Boswellia dalzielii* but also highlight its potential in the development of new anti-inflammatory treatments

Keywords: Anti-inflammatory, *Boswellia dalzielii*, COX-2 inhibition, *Computational Analysiss* Polyphenolics

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 043

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Preclinical Investigation of an Antihistamine and Artemether-Lumefantrine Co-Administration on Biochemical and Histological Parameters in Plasmodium berghei berghei-Infected Mice

*ALEMIKA Ebun Bonire[1], ANUKA Joseph[2], ANAFI Sherifat Bola[2]

[1]Department of Pharmaceutical Services, Ahmadu Bello University Teaching Hospital, Shika, Nigeria.
[2]Department of Pharmacology and Therapeutics, Ahmadu Bello University, Zaria, Nigeria.

***Corresponding author:** ebunbonire@yahoo.com, +2348127016485

ABSTRACT

Introduction: Malaria remains a major public health burden in Nigeria, contributing significantly to global morbidity and mortality. Despite the use of artemisinin-based combination therapies (ACTs) such as artemether-lumefantrine, Africa still accounts for over 90% of malaria deaths. Promethazine, a first-generation antihistamine, is often co-administered for symptomatic relief, but its potential effects on treatment-related biochemical and histological parameters remain unclear. This study evaluated the biochemical and hepatic histological effects of co-administering promethazine with artemether-lumefantrine in *Plasmodium berghei*-infected mice.

Methods: Thirty-six mice were divided into six groups. Five groups were infected with *P. berghei* and treated orally for five consecutive days, starting 72 hours post-infection. On day eight, blood samples were collected for liver enzyme assays (ALT and AST), and liver tissues were harvested for histopathological examination.

Results: Co-administration of promethazine with artemether-lumefantrine caused a significant ($p \leq 0.05$) elevation in serum ALT and AST levels compared with artemether-lumefantrine alone. Histopathological analysis showed dose-dependent hepatic changes, including hepatocyte hypertrophy, inflammatory cell infiltration, narrowed sinusoidal spaces, and pyknotic nuclei, indicating hepatic stress.

Conclusion: The co-administration of promethazine with artemether-lumefantrine resulted in elevated liver enzyme levels and histological evidence of hepatic alteration in *P. berghei*-infected mice. These findings highlight potential hepatic risks and warrant further investigation into the safety of this combination.

Keywords: Artemether-lumefantrine, Promethazine, Co-administration, Malaria, Biochemical, Histological

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 044

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Characterisation of silicified *Dioscorea dumetorum* starch modified by addition of charged amino acids at various pH levels.

*Oladapo .A. ADETUNJI and Damilola .O. IBRAHIM

Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, University of Ibadan, Ibadan.

Corresponding Author: E-mail: adetunjioladapo@gmail.com, Telephone: +234 805 541 2280

ABSTRACT

Introduction: The setback involved in the use of starches as excipients in drug delivery has led to their modifications to improve their functional properties. This study involved two step modification of *Dioscorea dumetorum* Pax starch (Family: *Dioscoreacea*), first by silicification and then co-blending with charged amino acids at various pH levels. The modified starch was characterized and evaluated for its functional properties in comparison with unmodified *Dioscorea dumetorum* starch (DDS).

Methods: DDS was modified by thermal blending with silicon dioxide to yield sDDS. Buffer solutions of pH4 (acetate 0.1M), pH7 (phosphate 0.5M) and pH10 (carbonate 0.05M) were prepared. 20g of sDDS was added into a beaker containing lysine (or aspartic acid) and buffer solution of pH4, pH7 or pH10. The mixture was stirred and dried in the oven at 30^0C. The dried samples (A-G) were granulated (A=sDDS/lysine/pH4; B=sDDS/lysine/pH7; C=sDDS/lysine/pH10; D=sDDS/aspartic-acid/pH4; E=sDDS/aspartic-acid/pH7, F=sDDS/aspartic-acid/pH10, G=DDS). All samples were characterized using density measurements, flow properties, morphology, Fourier-transform infra-red (FTIR) spectroscopy and pasting properties. The results were analyzed using mean and standard deviation.

Results: Bulk and tapped density measurements (g/mL) ranked D(0.91)>E>F>C>B>A>G(0.62) and G(1.12±0.01)>B>A>C>D>E>F(0.72±0.03), respectively, thus indicating that the modification led to a reduction in the spatial volume of the granules. Angles of repose ranked G(46.46±0.01^0)>C>A>B>D>E>F(25.61±0.11^0). Spherical granules were formed by samples A,B,D and E, while others formed irregular shaped granules. FTIR spectra of DDS showed prominent peaks (cm^{-1}) at 901.60, 1145.60, 3448.80 and 3884.80. that were retained after modification, but with introduction of more functional groups due to the silicification and amino-acid blending. The peak and breakdown viscosities(cP) were ranked D(2298.00±0.07)>B>E>F>C>A>G(707.00±0.11), while the trough viscosity was the reverse.

Conclusion: The two-step modification of *Dioscorea dumetorum* starch led to enhanced functional properties of the starch. Granules C and E had better flow and pasting properties respectively, than other granules, which are pointers to potential use in immediate release tablet formulations. Further studies involving starch modification with uncharged non-polar amino acids will be carried out.

KEYWORDS: *Dioscorea dumetorum* starch, Modification, Silicification, Amino acids, Functional properties.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 045

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Formulation And Evaluation of Salbutamol Oral Disintegrating Films Using Native and Modified Starches Obtained from Tubers of *Manihot Esculenta* (Euphorbiaceae)

Samaila, A.B.[A-F], Bwala, J.A.[F] , Iji, M.E.[F] Oduola, A.R.[F], Okpanachi, G.O.[F], Ohwoavworhua, F.O.[F], Abubakar, U.[B-C]

[1]Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, Gombe State University, Nigeria.
[2]Department of Pharmaceutical Technology and Industrial Pharmacy, Faculty of Pharmaceutical Sciences, University of Jos, Nigeria.

[*]**Corresponding author:** bwalaalheri94@gsu.edu.ng, +2348063470647

ABSTRACT

Background: Oral Disintegrating Films (ODFs) offer a friendly solution to patients as compared to conventional oral dosage forms, particularly for patients with dysphagia. Also, ODFs have potential as matrixes for individualized drug manufacturing, and when obtained locally, can contribute to national economy.
Objectives: To formulate and evaluate salbutamol ODFs using native and modified starches obtained from tubers of *Manihot esculenta* (euphorbiaceae).
Methods: Cassava starch (*Manihot esculenta*) was purified, modified, and its physicochemical properties like viscosity, swelling index, and pH were evaluated. Monolayered Salbutamol (4mg) ODFs were formulated with the native, pregelatinized and acetylated starches using the solvent casting method and the physicochemical properties were evaluated as potential ODF matrix.
Results: The films formulated with the pregelatinized (PGS) and acetylated (AS) starches showed comparable mechanical strength with Hydroxypropylmethyl cellulose in folding endurance (>300), while those formulated with native starch were not peelable and could not undergo further studies. Results obtained indicate that the modified starches exhibited improved film properties compared to the native starch in their surface properties, folding endurance (>300), and percent elongation (7.87-15.71) as compared to HPMC (4.98), with maximum flexibility and mechanical strength achieved by the films formulated with acetylated starch. The films had disintegration time of >2 hours (without addition of a disintegrant), suggesting their potential as mucoadhesive-sustained release ODFs.
Conclusion: The result showed that pregelatinized and acetylated cassava starches have greater potential as matrix for ODFs.

Keywords: Oral Disintegrating Films, matrix, solvent casting method.

98th Annual National Conference of the Pharmaceutical Society of Nigeria November 3-8, 2025

CONFERENCE ABSTRACT

PSNNJP 046

The Nigerian Journal of PHARMACY
THE OFFICIAL ORGAN OF THE PHARMACEUTICAL SOCIETY OF NIGERIA

Aloe-Vera Derived Pharmaceutical Hydrocolloid; Isolation, Characterization and Its Application as a Stabilizer in Oil-in-Water Emulsions

*Ohwoavworhua F. O and Kwarams S. E

Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, Gombe State University, Gombe, Nigeria.

*Corresponding author email: frankohwo@gsu.edu.ng

ABSTRACT

Background: One naturally occurring product that has been used in the pharmaceutical industry is the hydrocolloid. This is because hydrocolloid and its derivatives are multifunctional excipients in drug formulations. Although considerable work has been done on sourcing hydrocolloids from other sources, only few investigations have studied the possibility of obtaining hydrocolloid from Aloe vera plants and using it as an excipient. Aloe Vera is a drought resisting, perennial plant that belongs to the Asphodelaceae family.

Objective: The purpose of this study is to isolate/extract Aloe vera hydrocolloid as a pharmaceutical excipient and evaluates its use as a stabilizer in oil-in-water emulsion.

Methodology: The Aloe vera hydrocolloid was precipitated out of the Aloe vera gel with methanol, it was then characterized for particulate and powder properties. The Aloe vera hydrocolloid was used in concentrations of 2%,4%, and 6% w/v oil -in-water emulsions and stability of the emulsions were evaluated by visual observation. The particulate properties were determined using Fourier transform infrared spectroscopy (FTIR), X- ray diffraction (XRD) and Scanning electron microscopy (SEM).

Results: The percent yield of the hydrocolloid is 1.72%. The XRD showed that Aloe vera hydrocolloid is both crystalline and amorphous in nature, while the SEM revealed that Aloe vera hydrocolloid consists of particles of colloidal dimensions, ranging from few nanometers to micrometers. FTIR of the Aloe vera hydrocolloid consist of C-H, O-H and C=O group. The powder flow properties indexes such as flow rate, Carr's index, Hausners ratio, and angle of repose indicate the Aloe vera hydrocolloid has good flow. The high hydration capacity and swelling capacity of Aloe vera hydrocolloid were 9.4g and 900, respectlively.

Conclusion: The emulsions made with Aloe vera hydrocolloids revealed to be stable than those made from Acacia gum. Consequently, Aloe vera hydrocolloid is adjudged a potential pharmaceutical excipient in emulsion formulation.

Keywords: Aloe vera hydrocolloid, Extraction, Characterization, Stabilizer in oil-in-water emulsions, formulation.

MEMBERS OF POSTER/ ABSTRACT COMMITTEE

Pharm. (Prof) Moses A. Akanmu	Chairman
Pharm. Friday Enaholo	Chairman (CPC)
Pharm. (Prof.) Josephine Ofeimu	
Pharm. Abidemi Titi Onedo FPSN	
Pharm. (Dr.) Josephat Obasi	
Pharm. (Dr.) Aliyu M. Idris	
Pharm. Kunle Ogunlowo	

PHARMACEUTICAL SOCIETY OF NIGERIA
(FOUNDED 1927)
AS MEN OF HONOUR WE JOIN HANDS

WE'LL SUPPORT YOU

Looking for information on drug interaction?

You have us

Looking for information on how to manage adverse reaction?

You have us

Looking for information on drugs that can be taken during pregnancy and lactation?

You have us

PSN Medicines Information Centre

32 Faramobi Ajike street, Anthony village Lagos.
Tel: 09091113860 @MIC4PSN
: https://psnnational.org/index.php/medicines-info/