CONFERENCE ABSTRACTS

POSTER PRESENTATIONS
ENGLISH

WAPCP-2026-PCG-027-P001

Quality evaluation of some herbal products distributed and used in Southwestern Nigeria for the management of diabetes mellitus

Vivian A. Fijabi[1], Abu Thomas[2], Omonike O. Ogbole[3] and Olayemi M Adegbolagun[1]
[1]Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmaceutical Sciences, University of Ibadan, Ibadan, Nigeria
[2]National Biotechnology Research and Development Agency, Abuja
[3]Department of Pharmacognosy and Herbal Medicine, Faculty of Pharmaceutical Sciences. University of Ibadan, Ibadan, Nigeria

Presenting author: Olayemi M. Adegbolagun
Email of presenting author: duplag@yahoo.com

Background: Diabetes mellitus (DM) is a metabolic disorder characterized by chronic hyperglycaemia resulting from insulin deficiency or impaired insulin action. In Nigeria, the prevalence of Diabetes mellitus is 3.8 %. A value of 3.2 % has been reported for the Southwestern region. Growing dissatisfaction with orthodox medicines due to cost, adverse drug reactions, and perceived inefficacy has increased reliance on herbal medicinal products, highlighting the need for quality evaluation and standardization.

Objective: This study evaluated the quality of selected commercially available herbal products used for the management of diabetes mellitus in Southwestern Nigeria.

Methods: Nine (9) antidiabetic herbal products were subjected to organoleptic evaluation, physicochemical analysis, phytochemical screening, heavy metal determination, total phenolic content (Folin-ciocalteau method) and free radical scavenging activity (DPPH assay). In-vitro hypoglycaemic activity was assessed using α-amylase and α-glucosidase inhibitory assays with Acarbose as the reference drug.

Results: The samples showed variations in colour, odour, texture, and thin-layer chromatographic profiles. Phytochemicals tested (saponins, tanins, glycosides, terpenes, steroids, flavonoids, alkaloids, and phenols) were present in all the samples except flavonoids, which was absent in one product. Heavy metals assessed were manganese, nickel, zinc, cadmium, and lead. DBT1, EKS and DDX exceeded WHO permissible limit for lead while only EKS was within the permissible limit for cadmium. Total phenolic content ranged from 0.24 to 156.29 mg GAE/mL, while antioxidant activity ranged from 89.80 to 144.43 mg GAE/mL. α-Amylase inhibition (IC_{50}) ranged from 55.54 ± 0.22 to 279.0 ± 0.46 µg/mL compared to 210.50 ± 0.26 µg/mL for Acarbose, whereas α-glucosidase inhibition ranged from 339.20 ± 0.30 to 583.40 ± 0.12 µg/mL versus 134.40 ± 0.52 µg/mL (for Acarbose).

Conclusion: Some products complied with the WHO physicochemical standards. All exhibited antidiabetic activity, with eight products demonstrating α-amylase inhibitory activity.

Keywords: Diabetes mellitus; Herbal products; Physicochemical analysis; In-Vitro Hypoglycaemic assays; Acarbose

WAPCP-2026-PCH-037-P003

Detection of Poor Quality Medicines using Portable NIR Spectroscopy: Challenges and Opportunities

Adjagboni Aristide[1,2], Guerrini Ruggero[2], Sacre Pierre-Yves[3], Ziemons Eric[2], Yemoa L. Y. Achille[1]
[1]Laboratory of Analytical Chemistry and Drug Analysis (LCAM), UFR Pharmacy, Faculty of Health Sciences, University of Abomey Calavi, Cotonou, Benin
[2]ViBra-Santé HUB, Laboratory of Pharmaceutical Analytical Chemistry, University of Liège (Uliège), CIRM
[3]Research Support Unit in Chemometrics, Department of Pharmacy, University of Liège (Uliège), CIRM

Presenting author: Adjagboni Aristide
Email of presenting author: aristideadjagboni@gmail.com

Background: Portable near-infrared (NIR) spectroscopy is becoming a valuable tool for detecting substandard and falsified medicines, as it enables rapid, reagent-free qualitative and quantitative analyses directly in the field. Despite its potential, its wider deployment remains limited by the absence of reference spectral databases and validated chemometric models that can be readily applied to different instruments. As a result, users must build their own models, a process requiring substantial expertise, time, and resources.

Project Focus: The NIR4MED project aims to address these limitations through three objectives: (i) to construct a robust spectral database for quinine sulfate, cefixime, and the artemether-lumefantrine combination using spectra collected from qualified laboratory and portable NIR spectrophotometers; (ii) to develop transferable chemometric models that can operate reliably across different portable instruments; and (iii) to implement a web-based interface enabling practical field deployment of these tools.

Methods and Conclusion: Achieving these goals requires overcoming key challenges, including instrument-to-instrument variability, formulation diversity across manufacturers, strengths and batches, the influence of environmental conditions, and the definition of decision thresholds that balance false detections against missed detections under operational constraints while accounting for health risks. A chemometric pipeline integrating preprocessing, convex-hull, calibration transfer, one class modelling, and bootstrap based uncertainty estimation is proposed to address these challenges. This combined strategy enables the models to account for instrumental and pharmaceutical variability, while providing interpretable confidence indicators that support field decision making without requiring explicit out class information. The project is conducted over 36 months through a collaboration between the University of Abomey-Calavi, the University of Liège, and the University of Toulouse, with support from the Fondation Pierre Fabre.

Acknowledgements: The authors sincerely thank the Pierre Fabre Foundation for the grants awarded

Keywords: Near-infrared spectroscopy; Substandard medicines detection; Chemometric modelling; Instrument transferability; Spectral database development

WAPCP-2026-PCT-031-P004

Reviving Senegal's Pharmaceutical Industry

Serigne M. F. Toure and Serigne O. Sarr
Cheikh Anta Diop University

Presenting author: Serigne M. F. Toure
Email of presenting author: serignemouhamadou.toure@ucad.edu.sn

Background: Africa accounts for 17.2 % of the world's population but produces only 3% of global pharmaceuticals. Like many Sub-Saharan African countries, Senegal remains highly dependent on imports, with local production covering only 11 % of national medicine needs. Although access to essential medicines is universally recognized as a right, significant gaps persist between this principle and market realities. To reduce dependency, Senegal launched a pharmaceutical industry revival plan in 2021 as part of its 2021-2035 industrialization strategy.

Objectives: This study analyzed the impact of government measures on the development of the local pharmaceutical industry and proposes recommendations for its sustainable growth.

Methods: A mixed analytical study (retrospective and prospective) was conducted in Senegal from March 5, 2023, to December 29, 2025. Thirteen participants (5 pharmaceutical unit managers, 2 institutional authorities, 4 project leaders, and 2 academics) responded to a questionnaire during interviews. Secondary data were collected from 21 institutional and scientific documents. The data were analyzed using descriptive statistics and qualitative thematic analysis, with participant confidentiality strictly maintained.

Results: Policy and technological reforms were identified across the pharmaceutical value chain, including research and development, production, and distribution. Institutional restructuring has been completed, and eighteen priority essential medicines were selected for local manufacturing. However, most production-related reforms remain unimplemented. As a result, the objective of meeting 20 % of national medicine needs through local production by 2025 has not been achieved due to delays in implementing key measures.

Conclusion: Pharmaceutical sovereignty is both a public health and national security issue. A comprehensive government commitment is urgently needed to strengthen regulation, develop human capital, promote technology transfer, and create a supportive business environment for sustainable local pharmaceutical production.

Keywords: Pharmaceutical industry; Industrial policy; Access to Essential Medicines; Senegal

WAPCP-2026-PCT-036-P005

Apitherapy in lower casamance (Southern Senegal): A cross-sectional study and implications for pharmaceutical sovereignty

Elhadji N. Y. Diedhiou[1], Landing Ndiaye[1], Mohamed Badji[2], Mory Boye[1], Ibrahima Ndiaye[1], Kady Diatta[3,4] and Mohamed M. Charahabil[1]

[1]Assane Seck University of Ziguinchor (UASZ), Faculty of Science and Technology, Laboratory of Agroforestry and Ecology (LAFE), BP 523, Ziguinchor, Senegal.

[2]Gaston Berger University of Saint-Louis (UGB), Faculty of Applied Sciences and Technologies, Saint-Louis, Senegal.

[3]Cheikh Anta Diop University of Dakar (UCAD), Faculty of Medicine, Pharmacy and Dentistry (FMPO), Laboratory of Pharmacognosy and Botany, Dakar, Senegal. (FMPO) Laboratoire de Pharmacognosie et Botanique, Dakar, Sénégal

[4]International Laboratory Research 3189 (ILR 3189) " Environment, Health, Society " CNRS-UCAD-CNRST-USTTB-UGB, Dakar, Senegal.

Presenting author: Elhadji N. Y. Diedhiou

Email of presenting author: elhadjibadji92@gmail.com; eny.d@zig.univ.sn

Background: Apitherapy, defined as the medicinal use of bee products such as honey, propolis, beeswax, pollen, royal jelly, and bee venom, is increasingly recognized for its therapeutic potential. However, scientific evidence on knowledge and practices related to apitherapy remains limited in southern Senegal.

Objective: This study aimed to assess knowledge, attitudes, and practices related to apitherapy in Lower Casamance, southern Senegal.

Methods: A cross-sectional KAP (Knowledge, Attitudes, and Practices) survey was conducted among beekeepers, traditional healers, pharmacists, nurses, and physicians across the departments of Ziguinchor, Bignona, and Oussouye. Data were collected using structured questionnaires focusing on the use of bee products and conditions treated. Descriptive statistics and inferential analyses were performed to examine associations between socio-professional variables and apitherapy practices.

Results: Statistical analysis revealed that apitherapy practices were not influenced by profession ($p = 0.14$) or religious affiliation ($p = 0.27$). A total of 908 reports of conditions treated with bee products were recorded. Honey accounted for 82.2 % of reported uses, mainly for mild respiratory ailments (44 %), including colds, flu, and cough. Dermatological and wound-healing applications represented 23 %, while digestive disorders accounted for 15%. Beeswax (7.4 %) was primarily used for skin conditions (55 %). Pollen (2.8%) and royal jelly (2.9 %) were associated with nutritional deficiencies and fatigue. Propolis (2.9 %) was mainly used for infections, whereas bee venom (2.0 %) was cited in rheumatologic and inflammatory disorders.

Conclusion: Respiratory conditions emerged as the leading category of use, highlighting the therapeutic relevance of bee products in Lower Casamance. These findings underscore their potential contribution to local pharmaceutical sovereignty.

Keywords: Apitherapy; Bee products; KAP study; Usage; Pharmaceutical sovereignty

WAPCP-2026-PAD-039-P008

Knowledge, Attitude and Practice about Antimicrobial Stewardship by Selected Healthcare Professionals in Sokoto Metropolis

Yahanasu B. Ahmad1, Saminu Falalu2, Aminu A. Biambo3, Nurudeen Usman3, Aliyu Samaila3, Zainab Bashir3, Abubakar M. Amali4 and Ode E. Innocent5

1 Faculty of Clinical Pharmacy, West African Postgraduate College of Pharmacists

2 Department of Pharmacy, Aminu Kano Teaching Hospital, Kano, Nigeria.

3 Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria

4 Department of Pharmacology and Toxicology, Faculty of Pharmaceutical Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria

5Department of Pharmacy Usmanu Danfodio University Teaching Hospital Sokoto, Nigeria

Presenting author: Yahanasu B. Ahmad

Email of presenting author: yahanasubiambo@gmail.com

Background: Antimicrobial agents are essential in managing infectious diseases. However, the effectiveness of these agents is threatened by the development of resistance, hence, a global health challenge. Antimicrobial stewardship programmes (ASP) are an essential part of public health interventions to maintain the sensitivity of the existing antimicrobial agents (AMAs).

Objectives: To evaluate the knowledge, attitude, and practice of antimicrobial stewardship among healthcare professionals in Sokoto metropolis.

Methods: A descriptive cross-sectional design was used. Healthcare professionals were selected conveniently Slovins formula based on data obtained from the state. A validated 21-item structured questionnaire was sent to eligible respondents across the state. The collected data were aggregated and cleaned for analysis. The data were analysed using descriptive statistics, one-way ANOVA, cross-tabulation and chi-square analyses at $p < 0.05$ for all the inferential statistics. The knowledge score was categorised as low (<60%), moderate (60-79 %), or high (> 80 %).

Results: Most of the 115 respondents were male (n = 67, 58.3%), aged 25 to 34 years (n = 58, 50.9%). Overall moderate ASP knowledge score of 66.1±23.4 % was obtained with physicians (82.0 ± 17.3%) and pharmacists (71.6 ± 22.9 %) having the highest. Most reported a positive attitude and practice of ASP. Cross-tabulation analysis shows that respondents' years of experience ($\chi^2_{(df)} = 21.5_{(6)}$, $p = 0.002$) and profession ($\chi^2_{(df)} = 17.5_{(8)}$, $p = 0.026$) were significantly associated with ASP knowledge.

Conclusion: Healthcare professionals surveyed had moderate knowledge, and positive attitude and practice about ASP. The respondents' years of experience and profession were associated with better ASP knowledge. This finding should be used by hospitals and policymakers to improve the capacity of healthcare workers towards ASP to improve the quality of care.

Keywords: Antimicrobial agent; Antimicrobial Stewardship; Knowledge, Attitude and Practice; Healthcare professionals.

WAPCP-2026-PCH-004-P10

Quality assessment of some commercial brands of ascorbic acid (Vitamin C) and Zinc Tablets within Abuja Metropolis during COVID-19

Lucy B. John-Africa[1,2], Isa H. Galadima[3], Elizabeth K. Ekere[4], Abubakar M. Danraka[5], Christiana Y. Isimi[4] and Obi P. Adigwe[6]

[1]Department of Pharmacology and Toxicology, National Institute for Pharmaceutical Research and Development, Abuja, Nigeria.

[2]Department of Pharmacology and Toxicology, Faculty of Pharmaceutical Sciences, Veritas University Abuja.

[3]Department of Medicinal Chemistry, National Institute for Pharmaceutical Research and Development, Abuja, Nigeria.

[4]Pharmaceutical Technology and Raw Material Development, National Institute for Pharmaceutical Research and Development, Abuja, Nigeria.

[5]Pharmacy and Pharmaceutical Services, National Hospital Abuja.

[6]National Institute for Pharmaceutical Research and Development, Abuja, Nigeria.

Presenting author: Lucy B. John-Africa

Email of presenting author: lucyjohnafrica@gmail.com

Background: Logistic challenges can affect the quality, efficacy, and safety of pharmaceutical products. The COVID-19 pandemic disrupted supply chains, impacting on the availability of essential medicines. This study evaluates the quality of vitamin C and zinc tablets produced during this period.

Methods: Samples of ten brands of vitamin C and seven brands of zinc tablets from pharmacies in Abuja were collected and assessed according to the British Pharmacopoeia (BP), International Pharmacopoeia (IP), and United States Pharmacopoeia (USP). The quality parameters evaluated included hardness, friability, disintegration time, dissolution profile, and microbial limits. The content of the Active Pharmaceutical Ingredient (API) was also measured.

Results: All vitamin C and zinc tablets met minimum packaging and labeling requirements. Of the samples, 60% of vitamin C and 71% of zinc conformed to weight variation specifications. Hardness values showed that 10% of vitamin C and 29% of zinc fell within the acceptable range, whereas 90% of vitamin C and 57% of zinc had friability <1%. Disintegration times were within limits for 80% of vitamin C and 86% of zinc tablets. Furthermore, all vitamin C samples and 86% of zinc met dissolution standards. However, only 70% of vitamin C and 71% of zinc met API content specifications, whereas all brands met guidelines for microbial load.

Conclusion: The logistic challenges of the COVID-19 pandemic did not adversely affect the quality of vitamin C and zinc tablets produced during this time. Quality parameters were similar to those from pre-pandemic studies.

Keywords: Quality assessment; Tablets; Ascorbic acid (Vitamin C); Zinc; API; Logistics

WAPCP-2026-PAD-029-P011

The perceptions and effect of the 'JAPA Syndrome' among Nigerian Pharmacists in FCT Abuja

Ogochukwu G. Okechukwu and Anthony S. Idoko
Pharmacy Council of Nigeria

Presenting author: Ogochukwu G. Okechukwu
Email of presenting author: ogogladys@yahoo.com

Background: Pharmacists in Nigeria have increasingly expressed a strong desire to migrate abroad, a trend popularly referred to as the "JAPA syndrome" in Nigeria. This has become a concern in low-and middle-income countries especially as it affects local production and health sovereignty. Despite growing discourse, empirical evidence assessing stakeholders' perceptions and the effects remain limited.

Objectives: To assess the perceptions of Pharmacists about mass emigration and its effect on the pharmaceutical industry and health sovereignty.

Methods: A descriptive cross-sectional study was conducted among registered pharmacists in Abuja, Nigeria. Using a multistage sampling method, 330 respondents completed structured questionnaires covering demographics, migration intentions, motivations, and perceived effects on healthcare. Data was analyzed using descriptive statistics and chi-square tests to determine associations between variables.

Results: Among the 330 respondents (Female= 54.7%, Mean age= 35.5), the majority of the pharmacists reported to have emigrated were found to be in community (33.4 %) and hospital pharmacy (30.8 %). Also, more than half of the respondents are likely to migrate (50.6 %) with perceived higher salary pay (59.4 %) and a better future for children (60.6%) as key reasons for emigration. Significant associations were observed between age (0.000), years of experience (0.003), and area of practice (0.035) with migration intentions.

Conclusion: This study reveals pharmacists' desire to emigrate particularly those in frontline practice settings, with implications for healthcare delivery and pharmaceutical production. To mitigate this, policy interventions should prioritize improved remuneration, career development opportunities, and strengthened healthcare infrastructure. Retention strategies are urgently needed to safeguard Nigeria's health sovereignty.

Keywords: Pharmacist migration; Brain drain; Health sovereignty; JAPA syndrome; Nigeria

WAPCP-2026-PCG-041-P012

Assessment and knowledge about solid biomedical waste management in six healthcare facilities in Saint-Louis, Senegal

Seynabou Lo, Mba E. B. Diakhaby and Finafa P. O. Zoclanclounon
UFR-Sciences de la Santé, Université Gaston Berger, Saint-Louis

Presenting author: Lo Seynabou
Email of presenting author: seynabou.lo@ugb.edu.sn

Background: Biomedical waste management in Senegal remains a significant public health and environmental concern. Many healthcare facilities lack proper equipment, staff training, and effective waste sorting despite existing regulations. This exposes healthcare workers and public to infection and environmental pollution. This study assessed current state of solid waste management and knowledge of staff in Saint-Louis.

Methods: This descriptive and observational study conducted from January 1 to 31, 2025 in six healthcare facilities by administered questionnaire to 197 staff and on-site findings to compare responses and practices.

Results: The results show a participation rate of 93%, with women predominating (61 %). Staff training on waste management concerned 30.34 % of medical team and only 7.41% of those for waste treatment and disposal. A minority of respondents knew responsible for biosafety/biosecurity (38%). Waste sorting was carried out (76.97 %), with partially (61.54%). 11.80 % of staff were victims of accidents involving exposure to blood. Personal protective equipment was available in 76.92%, although kits were frequently incomplete. Sharp waste was disposed of in safety boxes in 54.55 % of cases. Waste bins and bags were available in 43.64 % and 47.88 % of facilities, respectively, and waste collection occurred twice daily in 92.5% of facilities. Only 33% of facilities had storage site (?48 hours), and none had treatment equipment. Incineration was main disposal method (55.56 %).

Conclusion: This study shows that management of solid biomedical waste is a serious public health issue in the country. A lack of initial training and knowledge has been noted. Compliance with national and international recommendations, provision of logistical equipment and appropriate training are necessary to address this issue.

Keywords: Assessment; Solid biomedical waste; Saint-Louis; Waste Management; Senegal

WAPCP-2026-PAD-001-P013

Assessing the Knowledge, Attitude and Perception of Health Workers in Selected Health Facilities within Kano Metropolis towards COVID-19 Vaccine

Solomon A. Agba[1] and Basil T. Anweh[2]
[1]PHarmacy Department, Armed Forces Specialist Hospital Kano, Kano State, Nigeria.
[2]Department of Clinical Pharmacy, Federal Medical Centre Makurdi, Benue State, Nigeria.

Presenting author: Solomon A. Agba
Email of presenting author: agbasolomon4@gmail.com

Background: Coronaviruses are a group of viruses that can cause diseases in both animals and humans. SARS-COV is an example of a corona virus. It will be easier for the public to accept the vaccine if health workers are advocates and have adequate knowledge about COVID-19 vaccine.

Objectives: The objective of this study is to assess the knowledge, attitude and perception of health workers towards the COVID-19 vaccine in selected healthcare facilities within Kano metropolis, Kano State, Nigeria.

Methods: A set of structured questionnaires were administered to health workers in 8 selected health facilities within Kano metropolis. The instrument sought information on the level of knowledge, attitude and perception of the health workers. 391 questionnaires were administered however only 187 respondents actually filled the questionnaires. Descriptive statistics including percentages and frequencies were used to summarize the data. Chi square was used to test proportion. The prior level for statistical significance was considered at $p < 0.05$.

Results: Majority of the workers had a positive attitude towards COVID-19 vaccine, and they perceived the COVID-19 vaccine to be effective and safe (129; 69.0 %). The results also showed they had adequate knowledge (92; 49.2 %) and had received their first dose of the vaccine (136: 72.7 %).

Conclusion: Healthcare workers had positive attitude towards COVID-19 vaccine. They also had adequate knowledge about COVID 19 vaccine. Ongoing monitoring and update lectures by the regulatory body will ensure continuous improvement in knowledge and attitudes of health workers.

Keywords: Knowledge, Attitude and Perception; Health workers; COVID19 vaccine; Kano; Nigeria

WAPCP-2026-PMB-002-P014

Susceptibility profiles of antibiotic-resistant uropathogens to methanol crude extract of *Azadirachta indica* leaves and its partitioned fractions

Michael O. Osungunna[1], Florence O. Akinwumi[1], Samuel A. Oladosu[2], Deborah I. Onifade[1], Isaiah G. Ogundare[1], Awhobiwom L. Betiang[1], Aisha Hassan[1] and Busola P. Awolesi[1]
[1]Department of Pharmaceutical Microbiology, Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Osun State
[2]Pathology Unit, Medical and Health Services, Obafemi Awolowo University

Presenting author: Michael O. Osungunna
Email of presenting author: mowole@oauife.edu.ng

Background: Resistance to multiple conventional antibiotics by uropathogens is a public health issue which has made searching for more effective antimicrobials from plant sources inevitable.

Objectives: This work aimed at evaluating isolated clinical uropathogens for their susceptibilities to commonly used antibiotics as well as to methanol crude extract of *Azadirachta indica* leaves and its partitioned fractions.

Methods: Using standard microbiological techniques, uropathogens were isolated from urine samples of 100 patients presented with urinary tract infections at Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife, Osun State. The isolates were identified and authenticated using conventional biochemical tests. Susceptibility profiles of the isolates to 12 commonly used antibiotics were determined using the Kirby-Bauer disk diffusion method. Susceptibility profiles of the selected antibiotic-resistant uropathogens to the crude extract of *A. indica* leaves and its partitioned fractions using n-hexane, dichloro methane and ethyl acetate, were determined using the broth micro-dilution technique.

Results: These revealed Staphylococcus aureus as the predominant isolate (72 %). Others include Proteus mirabilis (6%), Pseudomonas aeruginosa (6 %), Enterococcus faecalis

(4%), Escherichia coli (3 %), Klebsiella pneumoniae (3 %), Staphylococcus saprophyticus (3%). Susceptibility was highest for Levofloxacin (98 %) and resistance highest for meropenem. The multiple antibiotic-resistant uropathogens tested were all susceptible to the fractions at varying concentrations. The ethyl acetate fraction was the most effective with MIC50 of 6.25 mg/mL and MIC90 of 25 mg/mL. There was no significant difference ($p < 0.05$) in activity of methanol crude extract and ethyl acetate fraction against the multiple antibiotic-resistant uropathogens tested.

Conclusion: The study concluded that all the multiple antibiotic-resistant uropathogens tested were susceptible to methanol extract of *A. indica* leaves and its partitioned fractions, an indication that A. indica may be effective in the management of recurrent and persistent urinary tract infections.

Keywords: Susceptibility; Uropathogens; Partitioned fractions; Multiple antibiotic-resistant; *Azadirachta indica* leaves

WAPCP-2026-PCL-044-P015

Timing of Initiation of Insulin Therapy in Type 2 Diabetes Mellitus Patients on Oral Anti-Diabetic Medications: A Retrospective Review of Cases at the Tamale Teaching Hospital

Justice D. Koku-Anu[1], Anthony Amalba[2], Malick M. Danaa[3]
[1]Yunyoo-Nasuan District Health Directorate, Yunyoo, North East Region, Ghana
[2]School of Pharmacy, University for Development Studies, Tamale, Ghana

Presenting author: Justice D. Koku-Anu
Email of presenting author: kokjus2010@yahoo.com

Background: Timely initiation of insulin therapy in type 2 diabetes mellitus patients who fail to achieve glycaemic targets on oral diabetic medications is critical to preventing complications. However, delays in insulin initiation are common in many settings.

Objective: This study assessed the timing of insulin initiation among type 2 diabetes mellitus patients managed on diabetic medicines at Tamale Teaching Hospital, Ghana and examined associated glycaemic outcomes, clinical predictors and demographic factors.

Methods: A retrospective cross-sectional review of secondary data on glycated haemoglobin (HbA1c), fasting blood sugar, duration on oral anti-diabetic medications, and socio-demographic characteristics for 243 patients was carried out, using a check list to collect data. Descriptive statistics, paired t-tests, chi-square tests, and logistic regression analyses were used to evaluate associations and outcomes.

Results: Majority (85%) of patients transitioned to insulin within 7-12 months after diagnosis, while 15 % did so within 6 months. Mean age (55.3939 ± 12.05) was initiated on insulin compared to those who did not (60.48 ± 16.05). However, age was not a determining factor in the decision to commence insulin therapy ($p = 0.1214$). No significant association was found between Sex and insulin use, $p = 0.2109$. Mean HbA1c significantly decreased from 10.77% at diagnosis to 8.36% post-insulin initiation ($p < 0.001$). Patients who transitioned to insulin had significantly lower body mass index compared to those who did not ($p = 0.0246$).

Conclusion: Insulin initiation at the study site was commonly delayed despite poor glycaemic control, highlighting potential barriers within clinical practice and healthcare systems. There is a need for targeted interventions, including structured protocols, provider training and patient education, to promote timely insulin use and improve diabetes outcomes in resource-limited settings.

Keywords: Type 2 Diabetes mellitus; Insulin initiation; Oral anti-diabetic drugs; Glycaemic control, HbA1c; Ghana

WAPCP-2026-SEN-053-P016

Carriage of Extended-Spectrum Beta-Lactamase-Producing Enterobacteriaceae (ESBL-E) in Rodents Circulating at the Sor and Ndar-Toute Markets in Saint-Louis

Mba E. B. Diakhaby, I. Sow, A. Dalecky, N. Séne, Y. Niang, M. Kane, D. Niang, M. Fall, M. Touré, MC Diarra and Seynabou Lo
Training and Research Unit in Health Sciences/Gaston Berger University of Saint-Louis

Presenting author: Mba E. B. Diakhaby
Email of presenting author: mediakhaby@ugb.edu.sn

Background: The proliferation of multidrug-resistant bacteria, particularly through animal and human digestive carriage, represents a major public health challenge requiring an inclusive multisectoral approach to combat antimicrobial resistance.

Objectives: To assess the carriage rate of Extended-Spectrum Beta-Lactamase-Producing Enterobacteriaceae (ESBL-E) in rodents from the Sor and Ndar-Toute markets in Saint-Louis.

Methods: A cross-sectional study was conducted on rodents captured in these two areas. Rectal swabs were taken, enriched in brain heart infusion broth, then cultured on chromogenic media made selective by the incorporation of ceftriaxone. The quality of the medium was validated using the reference strain *Klebsiella pneumoniae* ATCC 700603. Identification and antibiotic susceptibility testing of the isolates were performed by agar disk diffusion, in accordance with the CA-SFM 2024 recommendations.

Results: Of a total of 37 rodents sampled, Escherichia coli was the most frequently isolated species. The overall ESBL carriage rate was 13.5 %. Although all ESBLs were susceptible to quinolones and amikacin, one isolate showed concerning resistance to carbapenems.

Conclusion: These results confirm the ubiquitous nature of ESBL-secreting E. coli strains and their circulation in the urban environment. The observed prevalence underscores the urgent need to integrate the monitoring of synanthropic wildlife into antimicrobial resistance control strategies in order to curb the spread of resistance genes between the animal, environmental, and human sectors.

Keywords: rodents; antibiotic resistance; ESBL carriage; Sor Market; Saint Louis

WAPCP-2026-SEN-054-P017

Study of the quality of captopril and furosemide-based medicines: A case study of some samples marketed in Senegal

Mamadou L. Drama, Harouna Tirera, Lucien Murhula, Issakha Dieye, Ousmane Faye, Amadou Diop and Serigne O. Sarr
Laboratory of Analytical Chemistry and Food Science, Cheikh Anta Diop University of Dakar (UCAD)

Presenting author: Mamadou L. Drama
Email of presenting author: laminedrame114@gmail.com

Context: Captopril and furosemide, administered alone or in combination with other classes of antihypertensive drugs, help reduce blood pressure and prevent strokes or heart attacks. However, poor-quality medications can compromise the effectiveness of the treatment and expose patients to the risk of serious side effects.

Objectives: The overall objective is to monitor the quality of antihypertensive drugs based on captopril and furosemide in Senegal, thereby contributing to the promotion of public health .

Methods: Random sampling technique was employed. The methodology included physical and visual inspection, pharmacotechnical tests (weight and size uniformity, disintegration test), identification by portable near-infrared spectrophotometer NIR SCAN and assay of captopril, furosemide by UV-visible spectrophotometry.

Results: The study showed that all samples passed the physical and visual inspection tests. They also demonstrated compliance with mass and size uniformity tests. However, one non- compliance was observed during the disintegration test for sample ECH5. In the case of identification, three devices were used, not only to identify the samples but also to verify the reliability of the devices.

This study shows that the results of the NIR1, NIR2 and NIR3 devices were identical for all samples, with a compliance rate of more than 95% regarding the spectra.

UV-Visible spectroscopy assay revealed two cases of captopril overdose, and two cases of furosemide underdose in the analysed samples, representing a non-compliance rate of 25 %. These results indicate the coexistence of compliant medicines and potentially substandard products on the market.

Conclusion: Medicine quality remains a major public health issue in Senegal, particularly in a context where globalisation and the proliferation of the parallel market for medical products exacerbate health risks. However, it would be beneficial for Senegal to invest in a more robust regulatory system capable of guaranteeing access to quality medicines.

Keywords: Hypertension; Captopril; Furosemide; Quality; Medicines; Senegal

WAPCP-2026-SEN-056-P019

Biological Diagnosis of Mendelian Susceptibility to Mycobacterial Infections (MSMD) in Dakar

Mame S. Guèye[1], Idrissa D. Ba[2], Mame T. Ndiaye-Diop[2], Indou Dème-Ly[2], Awa Kane[2], Ousmane Ndiaye[2], Macoura Gadji[3], Jacinta Bustamante[4] and Tandakha N. Dièye[1,3]
[1]Institute for Health Research, Epidemiological Surveillance and Training, Dakar, Senegal
[2]Albert Royer National Children's Hospital, Dakar, Senegal
[3]National Blood Transfusion Centre, Dakar, Senegal
[4]Imagine Institute, Paris, France

Presenting author: Mame S. Guèye
Email of presenting author: sokho1209nana@gmail.com

Background: Mendelian susceptibility to mycobacterial diseases is one of the primary immunodeficiencies, a group of genetic disorders affecting the immune system. This syndrome is characterised by severe infections caused by low-virulence mycobacteria and Mycobacterium tuberculosis.

Objective: This study aimed to clinically characterise the recruited patients and to identify genetic mutations.

Methods: We included patients aged 0 to 20 years with negative retroviral serology who were referred to Albert Royer Hospital for tuberculosis or candidiasis. Blood samples were collected for a complete blood count, lymphocyte immunophenotyping, and DNA extraction; the extracts were sent to Paris for whole-exome sequencing.

Results: We recruited 19 patients with a male-to-female ratio of 2.16 and a mean age of 8.9 years. All patients were vaccinated with BCG. Clinically, 78.96 % of patients had a mycobacterial infection, and candidiasis was present in 5.26 % of patients. Complete blood counts showed that 10.52 % of patients had lymphopenia and 89.47 % had anaemia. Lymphocyte immunophenotyping revealed a decrease in CD4+ T and B lymphocytes in one patient. Anti-IL-23 autoantibodies were detected in two patients, and two mutations were identified in the STAT1 and STAM2 genes.

Conclusion: MSMD is a rare but not exceptional disease. Diagnosis is based on strong clinical suspicion, with biological support, but confirmation is genetic in many cases.

Keywords: Biological Diagnosis; MSMD; Immunodeficiency; Mutation; Susceptibility; Senegal

WAPCP-2026-SEN-057-P020

SARS-CoV-2 marker detection in people over 50 years of age in the Saint-Louis, Thiès and Ziguinchor regions

Mba E. B. Diakhaby, Cheikh Fall, Habibou Sarr, Roughyatou Ka, Malick Ndao and Seynabou Lo
Faculty of Health Sciences, Gaston Berger University, Saint-Louis

Presenting author: Mba E. B. Diakhaby
Email of presenting author: mediakhaby@ugb.edu.sn

Background: Older people were a particularly vulnerable population during the COVID-19 pandemic.

Objective: Detecting SARS-CoV-2 markers (viral genome and specific antibodies) in elderly subjects in three regions of Senegal (Thiès, Saint-Louis and Ziguinchor) over a period of four months (June to September 2022).

Methods: This was a prospective, multicenter, descriptive and analytical study. After obtaining informed consent, participants completed a questionnaire, followed by nasopharyngeal and blood swabs. Viral genome was detected by RT-PCR, and anti-SARS-CoV-2 antibodies were detected by immunochromatographic method. Data were entered into Excel and then analysed using SPSS version 20 software.

Results: A total of 530 participants aged 50 to 97 years (Saint-Louis: 235; Ziguinchor: 162; Thiès: 133) were included. Hypertension (37.5 %) and diabetes (15.3 %) were the main comorbidities. Only six participants reported a history of SARS-CoV-2 infection, while vaccination coverage was 52 %. The seroprevalence of anti-SARS-CoV-2 antibodies was 85 %, while the viral genome was detected in only 11 participants. A statistically significant association was observed between seroprevalence and vaccination status (p = 0.000).

Conclusion: Despite the low proportion of reported cases, the high seroprevalence suggests significant circulation of the virus in this population, correlated with vaccination coverage. Increased awareness would help strengthen surveillance strategies among the elderly.

Keywords: COVID-19; Elderly; Seroprevalence; Viral genome; SARS-CoV-2; Senegal

WAPCP-2026-SEN-058-P021

Prevalence of Virological Failure in HIV-2 and HIV-1/2 Infected Patients Living in 7 Regions of Senegal: Results from the National HIV/AIDS Reference Laboratory

Sokhna Ndiaye, A. Sow, P. B. Diop, P. Y. Sene, N. O. Sow, Y. F. Sarr, M. Sy-Ndiaye, E. A. Diop, A. A. Ba, P. Manga, D. Samate, M. Fall, N. S. Ngom, S. Diaby, O. Diop-Diongue, O. Gueye and H. Diop-Ndiaye
National Reference Laboratory for HIV/AIDS, Dakar, Senegal

Presenting author: Sokhna Ndiaye
Email of presenting author: sokhnan605@gmail.com

Background: Viral load (VL) measurement remains the most reliable criterion for assessing the effectiveness of antiretroviral therapy (ART). However, some patients on ART may experience virological failure despite good adherence to treatment. The objective of this study was to assess the prevalence of virological failure in patients living with HIV-2 or HIV-1/2 who had undergone VL measurement.

Methods: This is a retrospective study conducted at the national HIV/AIDS reference laboratory on HIV-2 and HIV-1/2 VL requests from January 2023 to February 2025. Tests were performed using the m-PIMA HIV-1/2 VL test (Abbott, Diagnostics). Sociodemographic, therapeutic and virological data were extracted from the laboratory database to assess virological non-suppression (VL > 1000 copies/ml) and describe factors associated with virological failure according to gender, treatment regimen and serological profile.

Results: Samples from 392 patients were tested, primarily from Dakar (n=272), Thiès (n=43), and Kolda (n=29). The median age was 53 years [IQR: 38-61] with a male-to-female ratio of 0.2. Most patients (n=329; 83.9%) were infected with HIV-2, and 16.1 % (n=63) were infected with HIV-1/2. Regarding treatment, 91.8 % of patients (n=360) were receiving DTG and 4.3 % (n=17) were receiving LPV/r, with a median follow-up duration of 77 months [IQR: 46-121 months]. Viral non-suppression was recorded in 31 patients (7.9%), including 9.5 % of HIV-1/2 patients (6/63) and 7.6% of HIV-2 patients (25/329). It affected 6.9 % of women (22/318) and 12.2 % of men (9/74). The virological failure rate was 11.7% (2/17) in people living with HIV (PLHIV) on LPV/r and 5.6 % (20/360) in those on DTG, with no statistically significant difference (p = 0.3).

Conclusion: The study shows that the virological failure rate observed in HIV-2 and HIV-1/2 people highlights the importance of strict monitoring to optimise viral suppression.

Keywords: Prevalence; Virological failure; HIV; National Reference Laboratory; Senegal

WAPCP-2026-SEN-059-P022

SARS-CoV-2 Seroprevalence in HIV-Infected Patients in West Africa: Outcomes of the Multicenter Study (WANECOV Study)

Adjaratou A. Ba[1], J. Togo[2], H. Diop-Ndiaye[1], S. Mounerou[3], A. S. Ouedraogo[4], M. S. Diallo[5], T. Thomas[6], S. Osawe[7], A. Balde,[8] E. Thiakpe[9], N. Leye[10], D. Kania[4], Y. Akadiri[9], D. Kaba[5], A. Maiga[2] and C. Toure-Kane[10]
[1]Bacteriology-Virology Laboratory, Cheikh Anta Diop University of Dakar (UCAD),
[2]University of Sciences, Techniques and Technologies of Bamako (USSTB),
[3]University of Lomé (UL), [4]MURAZ Centre, [5]Donka National Hospital,
[6]Centre for Diagnosis and Research on AIDS and other infectious diseases (CEDRES),
[7]Institute of Human Virology Nigeria (IHVN),
[8]National Public Health Laboratories (INASA),
[9]University of Abomey Calavi (UAC), Benin, Republic
[10]Institute for Health Research, Epidemiological Surveillance and Training

Presenting author: Adjaratou A. Ba
Email of presenting author: adjiratouaissatouba@gmail.com

Background: In West Africa, the emergence of COVID-19 raised particular concerns for people living with HIV (PLHIV), who are potentially more vulnerable due to immunosuppression. However, the true extent of SARS-CoV-2 exposure in this population during the early years of the pandemic remained poorly documented. This study aims to determine the seroprevalence of SARS-CoV-2 among PLHIV in seven West African countries and to identify associated factors.

Methods: A multicentre cross-sectional study was conducted using stored plasma samples from 4,059 people living with HIV (PLHIV) monitored in Benin, Côte d'Ivoire, Guinea, Guinea-Bissau, Mali, Senegal, and Togo. Samples collected between 2018 and 2021 were tested for anti-SARS-CoV-2 antibodies

(IgG, IgM) using commercial enzyme-linked immunosorbent assays (ELISAs) (Abbott, Roche, etc.). Demographic, clinical, and therapeutic characteristics, as well as HIV viral load, were collected. Seroprevalence was estimated by country and year. Univariate and multivariate logistic regressions identified factors associated with IgG positivity.

Results: The cohort was predominantly female (66.5%) with a mean age of 44.2 years. The overall seroprevalence of anti-SARS-CoV-2 IgG was 28.7 % (95 % CI 27.0-30.4), with marked heterogeneity between countries: 5.7 % in Benin, 70.5 % in Guinea. IgM was rare (2.8 %), suggesting past infections. A clear temporal increase was observed: seroprevalence, almost zero in 2018-2019, reached over 80 % in Guinea and Guinea-Bissau in 2021, in line with the COVID-19 epidemic waves. In multivariate analysis, country was the strongest associated factor (Guinea vs. Benin: ORa = 65.6, 95 % CI 42.1-102.3). A detectable HIV viral load was associated with a lower probability of SARS-CoV-2 seropositivity (aOR = 0.64, 95 % CI 0.47-0.85, p = 0.002), while a longer duration of antiretroviral treatment was protective (aOR = 0.99, p < 0.001). Age and gender were not significantly associated.

Conclusion: This multicenter study conducted in West Africa shows a high and highly variable seroprevalence of SARS-CoV-2 among people living with HIV (PLHIV), with massive transmission during the 2020-2021 waves. Disparities between countries suggest that local epidemic dynamics were the main determinant of exposure, rather than HIV-related immunosuppression. The unexpected link between detectable HIV viral load and lower SARS-CoV-2 seropositivity warrants further investigation. These results support the integration of pandemic preparedness into HIV care programs in West Africa.

Keywords: SARS-CoV-2; HIV; Seroprevalence; West Africa; COVID-19; People Living with HIV; WANECOV

WAPCP-2026-SEN-060-P023

Impact of Hepatitis Virus Vaccination 20 Years After its Introduction into Senegal's Expanded Program on Immunisation

Mamath Seck[1], A. Ndoye Sow[2], S. J. Manga[1], A. F. M. Touré[1], C. I. Ba[1], C. Faye[3], P. A. T. Gueye[3], P. A. Dieng[1], Diatta F. D[1], H. E. Faye[1], F. Z. Cissé[1], O. Sow[1], B. Sarr[1], M. Séne[1], C. Gaye[1], M. Ndiaye[1] and H. Diop Ndiaye[4]

[1]Thiès Military Hospital,
[2]Laboratory of the National Gendarmerie Health Service
[3]Laboratory, Ouakam Military Hospital, Dakar, Senegal
[4]Bacteriology-Virology Laboratory, Cheikh Anta Diop University of Dakar

Presenting author: Mamath Seck
Email of presenting author: mamath230@gmail.com

Background: Hepatitis B virus infection is a major public health problem in Senegal, which is a highly endemic country.

Objectives: The objective of this study was to evaluate the prevalence of HBsAg in young Senegalese born after the introduction of the hepatitis B vaccine into the Expanded Program on Immunisation (EPI).

Methods: We conducted a prospective study over three consecutive years (2023, 2024, and 2025) at the medical biology laboratory of the Thiès Military Hospital. Our study population consisted of young Senegalese men newly admitted to military academies, referred to the laboratory for a pre-admission medical screening. The population included active-duty military personnel, gendarmes, and civilians. All candidates who underwent biological screening, including HBsAg testing, were included in this study. After obtaining written informed consent, each participant completed a questionnaire designed to collect socio-behavioural data. HBV status was determined based on HBsAg testing. Data were entered into Excel and analysed using SPSS version 20.

Results: Our study population consisted of 927 candidates, including 673 civilians, 209 military personnel, and 45 gendarmes. The mean age was 24 ± 3 (range 17-35 years), and the sex ratio was 6.5 (803/124). Young people born after 2004 represented 29.7 % of the population and 40.7 % of the civilians. The majority of candidates (90.1 %) were unaware of their HBV status. The overall prevalence of HBsAg was 6.5 %. It was 7.7 % among candidates born before 2004, compared to 3.6 % among younger individuals. Prevalence rates of 3.6 % and 5.3 % were found among civilians under 20 and over 20 years of age, respectively. Statistically, age was associated with HBsAg positivity with a p-value < 0.05. Candidates over 30 years of age were the most affected (22.6 %) compared to 3.5 % in those under 20 years of age. Only one candidate was eligible for antiviral treatment according to Senegalese national guidelines, and no cases of HIV/HBV coinfection were detected.

Conclusion: Our results show a significant decrease in the prevalence of HBsAg in subjects born after the introduction of HBV vaccination into the EPI in 2004. The low screening rate confirms the need to scale up efforts to achieve the HBV elimination targets by 2030.

Keywords: Hepatitis B; Expanded Programme on Immunization (EPI); Vaccination; Public Health; Senegal