THE ASSOCIATION FOR PUBLIC HEALTH TEACHING, RESEARCH AND SERVICE (APHTReS)

6th International Public Health Conference

Theme:

Artificial Intelligence & Educational Technology in Public Health Teaching, Research and Community Service

October, 6-8, 2025

Novena University, Amai Campus Delta State

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TABLE OF CONTENTS

Partner Institutions

1. Novena University
2. University of Ibadan
3. University of Calabar
4. Babcock University
5. David Umahi Federal University of Health Sciences
6. Adventist International Institute of Advanced Studies
7. Federal University of Technology, Owerri
8. National Open University
9. Sandvik Health Empowerment Foundation
10. Havilla University, Cross River

His Excellency
RT. Hon. (Elder) Sheriff F.O. Oborevwori
The Executive Governor of Delta State

Mrs. Tobore Oborevwori
Wife of the Governor of Delta State

Prof. Godwin Chukwuenweneiwe Nduka
Vice-Chancellor,
Novena University, Ogume, Nigeria

It is my pleasure to welcome you all on behalf of the LOC, PCH Department and Management of Novena University.

In 2022, our PhD students attended and presented at the conference in Babcock university. Since then, it has been our tradition to push our postgraduate students to showcase their research work at the conference. For us at Novena to host this year's event is an honour that we highly appreciate, especially as it enables more of our students to participate.

I acknowledge this is a quiet village and hope you will all recall why schools are usually situated at the outskirts of town – the quietness as one of the determinants of a quality learning environment. I do hope you will enjoy our quiet environment, local dishes and let the conference pass through you.

Once again, welcome to Amai community, welcome to Novena University, welcome to the 6TH edition of APHTReS.

APHTReS President's Welcome Address
Professor Godwin Aja

On behalf of the Association for Public Health Teaching, Research and Service (APHTReS), I warmly welcome all local, national, regional, and international public health faculty, practitioners, researchers, policymakers, and students to the 6th APHTReS International Public Health Conference. We are honored to have as our Special Guest of Honor and Chief Host Prof. Godwin Chukwuenweneiwe Nduka, Vice Chancellor of Novena University. A special welcome to the university's principal officers, provosts, deans, heads of department, directors, faculty, staff, and students.

I also recognize our distinguished keynote speakers: Prof. Andreas Martin (FHNW University of Applied Sciences & Arts, Switzerland), Prof. Oyedunni Arulogun (Vice Chancellor, Chrisland University), Prof. Eze Kingsley Nwangwa (Delta State University), Dr. Oyindamola Akinso (Davidson College, USA), Dr. Chinenyenwa Elile (CEO, Elile Consulting, USA), and Dr. Dan Namanya (Adventist University of the Philippines). We are privileged to learn from your expertise on this year's theme.

Since its founding in 2013, APHTReS has convened conferences at Babcock University (2013 & 2022), the National Open University of Nigeria (2016), David Umahi Federal University of Health Sciences (2023), and the University of Calabar (2024). Today, we are delighted to host our 6th edition at Novena University. We gratefully acknowledge the steady support of Dr. Chibunna Nwaobia and Dr. Jeimylo de Castro, whose contributions enabled the participation of selected students.

Our mission is to promote excellence, professionalism, and effectiveness in public health teaching, research, and practice. This year's theme—"Artificial Intelligence (AI) and Educational Technology in Public Health Teaching, Research, and Service"—could not be more timely. Around the world, AI is reshaping how we predict disease outbreaks, personalize patient care, and guide policy. Educational technology is opening doors to virtual classrooms, simulation labs, and real-time data sharing that transcend geography and resources. By focusing on the fusion of AI and educational technology, we challenge ourselves to reimagine public health: to harness machine learning for early epidemic detection, use digital platforms for rapid community education, and empower the next generation of health professionals with tools once deemed science fiction. This conference is our arena to explore these possibilities—while examining the ethics, equity, and collaboration required to ensure these technologies truly serve humanity.

This gathering provides a vibrant platform for discussion and knowledge exchange on AI and educational technology in research collaboration, health service delivery, policy, capacity building, and team-based approaches. I encourage you to participate fully in plenary and parallel sessions, the annual general meeting, and the presentation of membership certificates. Take every opportunity to network, explore research and funding prospects, and connect with experienced public health leaders.

My deepest gratitude goes to the APHTReS Steering, Local Organizing, and Scientific Committees, and to all whose efforts made this conference possible. A special thank-you to Prof. Nduka for graciously hosting us at this prestigious university. Distinguished guests, keynote speakers, delegates, and members of the press—welcome to APHTReS 2025!

It gives me great pleasure to welcome you all to the 6th International Public Health Conference at the Novena University, Ogume, Delta State, Nigeria. I appreciate everyone, both delegates attending in person and those participating virtually, for making the effort to attend the conference. Without your participation, there would have been no conference, so I thank you.

The theme for this year's conference is *Use of Artificial Intelligence and Other Educational Technologies in Public Health Teaching, Research, and Service*. The Scientific Committee selected this theme to underscore the potential significance of Artificial Intelligence (AI) in public health research and services. AI has gained so much traction in recent years that, as professionals, we must discuss the potential benefits and pitfalls in its use. The conference provides an excellent forum for delegates to discuss, learn, and share experiences on how to apply AI responsibly in conducting research and in providing services. We have carefully chosen speakers who will critically discuss issues around the theme of the conference and provide concrete suggestions on how to achieve this goal.

Our conference agenda has been carefully designed to meet global best practices and maximize the benefits that delegates will derive from it. We plan to start each day with a plenary session where speakers will focus on an aspect of the theme and set the tone for subsequent presentations for the day. We received many abstracts; therefore, we have organized parallel sessions of presentations to maximize the time available for the conference. The abstract-driven presentations cover diverse issues in public health, basic medical sciences, and science. We expect these presentations to generate rich discussions, stimulate new research ideas, and create opportunities for collaboration. We encourage delegates to take full advantage of this opportunity.

As in previous years, the conference is designed to be a hybrid event to enable delegates to participate both in person and virtually. We look forward to an exciting time of presentations, sharing, learning, and networking.

I seize this opportunity to express our sincere gratitude to the Vice Chancellor, Novena University, and members of the Local Organizing Committee for their contributions to the success of the conference.

Once again, I welcome you all and thank you very much for attending the 6th International Public Health Conference.

Professor Ademola J. Ajuwon,
Chair,
Scientific Committee, 6th International Public Health Conference, 2025

Members of the APHTReS Executive

1. Professor G. N. Aja
2. Professor A. J. Ajuwon
3. Professor N. O. Atulomah
4. Late Professor N. S. Olaniran
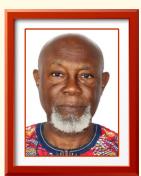
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Prof. Andreas Martin
FHNW University of Applied Sciences
& Arts Northwestern Switzerland

Andreas Martin is a Professor of Applied Artificial Intelligence at the FHNW University of Applied Sciences and Arts Northwestern Switzerland. He holds a B.Sc. and M.Sc. in Business Information Systems from FHNW and completed his doctoral research on contributions to Artificial Intelligence and Information Systems at the University of South Africa. For more than 17 years, Prof. Martin has conducted research in the field of Hybrid AI, focusing particularly on Dialogue Systems, Trustworthy Generative and Language AI, and Machine Reasoning and Learning. He is internationally recognized, notably through his involvement with the AAAI-MAKE Spring Symposium, which aims to bridge the key AI fields of machine learning and knowledge engineering to advance the development of trustworthy and human-centered AI. In his keynote, Prof. Martin will present his research on Trustworthy Dialogue Systems and Generative AI for Public Health.

Dr Dan Namanya, DMin
College of Theology,
Adventist University of the Philippines (AUP)

Dan Namanya, DMin, is a faculty member in the College of Theology at the Adventist University of the Philippines (AUP). He holds a bachelor's degree in theology from Mountain View College, and both a master's in religion and a Doctor of Ministry degree from the Adventist International Institute of Advanced Studies (AIIAS), Philippines. With a rich background as a missionary, educator, pastor, and TV evangelist, his research interests focus on mission strategies, church ministry, and Christ-centered preaching. His recent work explores the intersection of education and technology, particularly AI-enhanced learning, as reflected in his publication on the use of AI tools in student thesis research and writing.

Dr Oyindamola Akinso
Public Health Scholar, Educator &
Global Health Practitioner, USA

Dr. Oyindamola Akinso is a seasoned public health scholar, educator, and global health practitioner with over 15 years of experience advancing health equity through research, teaching, and community-based interventions. As a public health professor, she is passionate about student engagement and integrating innovative tools such as artificial intelligence into pedagogy, research, and service. Her work centers on maternal and child health, adolescent sexual and reproductive health, gender-based violence, and infectious disease control, with a strong commitment to improving outcomes for marginalized populations. Dr. Akinso began her career in Nigeria, partnering with international organizations to design and implement grassroots health programs. She is a widely published author, a peer reviewer for leading public health journals, and a sought-after speaker at academic and professional conferences. She brings a global perspective to her work and is dedicated to mentoring the next generation of public health leaders and advancing the responsible use of AI to strengthen public health systems and education.
Oyindamola Akinso DrPH, MPH, MCHES®

Prof. Eze Kingsley Nwangwa
College of Health Sciences
Delta State University, Abraka, Nigeria

Professor Eze Kingsley Nwangwa, is a Professor of Endocrine and Reproductive Medicine. However, such a description would barely scratch the surface of Professor Nwangwa's extraordinary persona. For apart from being an esteemed medical professional, he is a scholar of global repute, a consummate teacher, a quintessential mentor, an astute administrator, a consensus builder, a man of proven integrity

He obtained a Bachelor of Medicine, Bachelor of Surgery (M.B.B.S) degree in 2000. He obtained an M.Sc. and a Ph.D. in Human Physiology in 2006 and 2011 respectively and a Fellowship of the National Postgraduate Medical College of Nigeria in Family Medicine in 2015. He holds a certificate in Cybersecurity

Since joining Delta State University as a pioneer staff of the College of Health Sciences, Professor Nwangwa has made commendable contributions to teaching, research, and community service. The year 2015, was remarkable as he attained promotion to the rank of full Professor. His current research interest is on the mechanisms and effects of diabetes on male reproductive dysfunction and programming He has won many prizes including the Asclepius award as best Lecturer in the College of Health Sciences of Delta State University,

Abraka, His service record is extensive, having served on numerous high-profile university committee as Chairman and Member including the Chairman of University Health services Board. He has occupied the exalted position of Head, Department of Physiology and also recorded two successful tenures as Dean, Faculty of Basic Medical Sciences. His research output is impressive, with over 110 publications, including five book chapters, 43 Scopus-indexed publications, and 24 publications in the Thomson Reuters Web of Science Core Collection.

Professor Eze Kingsley Nwangwa ranks 5th among over 1000 academics in DELSU based on his Scopus publications between 2013 and 2024. His active participation at international conferences in Turkey, South Africa, and the USA highlights his notable global engagements, and he enjoys membership in prestigious professional bodies in his discipline including Physiological Society UK and American Physiological Association, USA. Professor is an Honorary Consultant Family and Primary care Physician at the Delta (State University Teaching Hospital (DELSUTH) Oghara and served as visiting Professor to a number of universities locally and internationally including the University of Cape Town.

Professor Nwangwa has supervised over 200 undergraduate projects, 15 M.Sc. dissertations, and 16 Ph.D Thesis. His external responsibilities include serving as NUC resource Person for CCMAS curriculum, external examiner and assessor for universities across Nigeria and South Africa and participating in Medical and Dental Council of Nigeria (MDCN) Resource person, underscoring his commitment to academic excellence and national development. As a Knight of St. Christopher in the Anglican Communion, Professor Nwangwa reflects his commitment to his Christian faith and community.

Dr Chinenyenwa Elile
Founder & Independent Consultant,
Elile Consulting, USA

Chinenyenwa Elile is an MDCN-licensed physician and a trained public health professional. She received her Bachelor of Medicine and Bachelor of Surgery in Nigeria, earned a Postgraduate Diploma in Community and General Pediatrics in South Africa, and recently completed a Master of Public Health with a concentration in Maternal and Child Health in the United States. With over a decade of professional experience integrating clinical medicine, public health, clinical research, and community engagement globally, Chinenyenwa brings a diverse perspective and a deep understanding of patient care and well-being across cultures. She has worked in several health departments & non-governmental organizations in the U.S. and several African countries.

Her contributions span strategic project planning, implementation, promotion, & sustainability, reflecting a strong commitment to health equity & a culturally responsive, systems-thinking approach to advancing community well-being. Chinenyenwa has a vision to promote and improve the health and well-being of the communities through family and community engagement, leadership, & education, using evidence-based medicine, policies, laws, and advocacy programs to advance disease prevention & health equity in public health practice. She is the founder and independent consultant of Elile Consulting. Services include: Strategic Planning, Mixed methods - qualitative research, community and outreach engagement, program evaluation, & continuous quality improvement (CQI), strategic planning with a focus on equity-centered public health initiatives.

Prof. Oyedunni S. Arulogun
Vice-Chancellor, Christland University
Ogun State, Nigeria

Professor Oyedunni Sola Arulogun (B.Ed, M.Ed, MPH, Ph.D.) is a distinguished Nigerian scholar in health promotion and education. Beginning her career as a speech therapist at University College Hospital, Ibadan, she joined the University of Ibadan's Department of Health Promotion and Education in 2002 and became a full professor in 2012—the first woman to hold that title in her field at UI. That same momentum carried her to be the first female to serve as Dean of Public Health (2014–2016) and in May 2023, the first-ever female University Orator of UI — truly a crescendo in a remarkable symphony of "firsts". In November 2024, was appointed Vice Chancellor of Chrisland University. With over 20 years of leadership in research, she has supervised numerous students and led major projects funded by WHO, NIH, MacArthur Foundation, Gates Foundation, and more. Her research spans reproductive health, stroke recovery, gender, and tropical diseases. A Fellow of the Royal Society of Public Health, Fellow of the African Institute of Public Health, Fellow of the Confederation for Women Entrepreneurship, Fellow of the Certified Institute of Entrepreneurship and Enterprise Education and Certified Entrepreneur. Her career reflects excellence, mentorship, and measurable impact across Africa.

AGENDA FOR PRE-CONFERENCE WORKSHOP

DAY ONE:

MONDAY, 6th OCTOBER 2025

	Time	Topic	Facilitators
Workshop Sessions	**8-9.00am**	**Arrival and Registration of Delegates**	**Chair: Prof. G.N. Aja**
	9.00- 10.00am	**Opening Prayer** How to Present an Abstract at an International Conference_ **Prof A. Ajuwon**	
	10.00-10.15am	**Systematic Review in Focus –(1)** *Exploring the Knowledge of Undergraduate Medical Students on Mobile Application Technology to Improve Learning Outcomes in Nigeria* -- **Henry Friday Nweke, Ignatius Nwoyibe Ogbaga, Chioma Virginia Anikwe, and Kingsley Otubo Igboji**	
	10.15-10.30am	*Challenges of Hospital Management and Healthcare Service Administration on Infertility in Nigeria*-- **Ifeoma Evelyn Onianwa**	
	10.30-10.45am	*Hospital Management and Healthcare Administration: Overview Of Maternal Health (Antenatal And Postnatal Care) in Nigeria_* **Omatsuli A.A, Arisabor O., Ikpobe S., & Nwose E.U**	
	10.45-11.00am	*Tiktok Therapy: The Rise of Mental Health Content Creator and their influence on Nigerian Youth Coping Mechanisms-* -**Blessing Timbo, Check Isho, Otei Joshua, Nuria Nwanchuku**	
	11.00-11.30am	**Questions and Answers**	
	11.30-12.00pm	**Health Break**	
	12.00-12.15pm	**Systematic Review in Focus–(2)** *The Role of Artificial Intelligence in Managing Cardiovascular Disease Risk Factors Among Young Adults at the Primary Healthcare Level in Delta State, Nigeria* -- **Obiajulu E. Uwaka, Confidence N. Ogbara, Michael O. Otutu, Ezekiel U. Nwose, & Michael E. Aisuodionoe**	**Chair: Prof. A. Ajuwon**
	12.15-12.30pm	*Telemedicine and Artificial Intelligence in Strengthening Primary Health Care in Rural Nigeria* -- **Agwere Collins Uwomano**	
	12.30-12.45pm	*Resilience and Enablers Among Undergraduate Health Profession Students: A Narrative Review*-- **Lukpata Felicia Ekwok, Etim John John, Lukpata Hippolatus Ogar, Nwakwue Ndukaku, Ibor Sylvia Don**	
	12.45-1.00pm	**Questions and Answers**	
	1.00-2.30pm	Use of Reference Managers _ **Dr. Esther Umahi**	
	2.30 - 3.00pm	**Lunch Break**	
	3.30 - 5.00pm	Design of Open-Source Tools for Data Collection**: Prof. Uba Nwose**	
	= CLOSING=		

DAY TWO:

TUESDAY, 7th OCTOBER 2025

Sessions	Time	Arrival and Registration of Delegates	Facilitators
PLENARY ONE	9.00 -12.00am	**Opening Ceremony/Prayer/Anthem** 1. Opening Remarks: **Prof. Godwin Aja, APHTReS President** 2. Welcome Address: **Prof. Ademola Ajuwon, Chair, APHTReS Conference Steering Committee** 3. Welcome Address: **Prof. Uba Nwose, Chair, LOC** 4. Special Address/Remarks by the Chief Host: **Prof. Godwin Chukwuenweneiwe Nduka, Vice Chancellor, Novena University, Ogume** 5. Goodwill Messages/Remarks Keynote Presentation 1**:** *The Development of Trustworthy Dialogue Systems and the Role of Generative AI in Global Public Health* _ **Andreas Martin, Professor of Applied Artificial Intelligence at the FHNW University of Applied Sciences and Arts Northwestern Switzerland** Keynote Presentation 2: *From Prediction to People - Harnessing AI for Precision Public Health and Community Impact*_ **Professor Oyedunni Arulogun, Vice-Chancellor, Chrisland University, Abeokuta, Nigeria**	*Chair:* **Prof. A. Ajuwon** *Rapporteur:*
	12.00 -12.30pm	**Health Break**	
Abstract Presentations **Parallel Sessions One**	12.30 -12.45pm	*Integrating Artificial Intelligence for Environmental Health Education: A Design Thinking Approach--***Christian Damián Cayrus Pereyra, Sarah Frimpong, Yin Mon Kyaw, Godwin Aja**	*Chair:* **Prof. A. Ajuwon** *Rapporteur:*
	12.45 -1.00pm	*Ethical Considerations on the Use of Artificial Intelligence (AI) for Developing Public Health Curriculum in Nigeria--***Saheed Akinmayowa Lawal, Oghenetega Onome, & Emmanuel Oladimeji Folorunso-Ako**	
	1.00 -1.15pm	*Telemedicine and Artificial Intelligence in Cardiovascular Disease Risk Evaluation Among Teachers in Ondo West Local Government Area: Policy Implications for Advancing Preventive Health Measures--* **Oladimeji Ayodeji Amos, Oluwadamilola Ogunkunle, Abiola Aminu, Olanrewaju Hamed, & Samson Akande**	
	1.15 -1.30pm	*Prevalence of Crime in Rural Community of Bokkos Local Government Area, Plateau State, Nigeria--***Jatua S. Sarah, Ezeagwula T. Divine, Samson Janet, & Adangs L. Emmanuel**	
	1.30 - 1.45pm	*Patient Safety Culture and Associated Factors Among Health Care Workers of a Teaching Hospital in Nigeria --* **Josiah Oluwaseun Odu, Idowu Oluwadarasimi, & Adeyemi Wale**	
	1.45- 2.00pm	**Questions and Answers**	
	2.00 - 2.30pm	**Lunch Break**	

Abstract Presentations **Parallel Sessions Two**	12.30 -12.45pm	*Knowledge and Practice of Exclusive Breastfeeding Among Lactating Mothers in Rivers State, Nigeria--* **Isaac Harold, Priscilia Nyekpunwo Ogbonda, & Mary Obidiya Okuku**	*Chair:* **Prof Nwose Uba.**
	12.45 -1.00pm	*Hepatoprotective and Haematological Assessment of Curcubita Pepo Seed Extract on Testosterone Propionate-Induced Benign Prostatic Hyperplasia in Male Albino Rats: Implication for Public Health--* **Nwuruku Olisa Alfred, Ibiam Udu Ama, Okoro Chukwuemeka Ogbonna, Aja Patrick Maduabuchi, Agu Peter Chinedu, Orji Obasi Uche, Ekpono Ezebuilo Ugbala, Ugwu Okechukwu Paul-Chima, Ikechukwu Jacob Okoro & Obasi David Chukwu**	
	1.00 -1.15pm	*Perceived Effects of Nutrition on Health Outcomes Among the Elderly in Igbokoda Local Government Area of Ondo State--* **Alabi Toluwalase Adeniran &Otovwe Agofure**	
	1.15 -1.30pm	*Perceived Effects of Excessive Use of Telecommunication Devices Among Students in Novena University, Ogume, Delta State, Nigeria--* **Otuya Miracle Oluchukwu**	
	1.30 - 1.45pm	*Awareness and Knowledge of Cerebral Palsy Among Women of Reproductive Age on the Magba Sub-Division, West Region of Cameroon--* **Helen Lonn, Antor O. Ndep, Bernadine N. Ekpenyong, Ekpereonne B. Esu, & Awa Jacques Chirac**	
	1.45- 2.00pm	**Questions and Answers**	
	2.00-2.30pm	**Lunch Break**	
Abstract Presentations **Parallel Sessions One**	2.30 - 2.45pm	*Awareness and Utilization of Mobile Health Applications for Disease Prevention and Self-Care Management Among Public Health and Nursing Undergraduates in Abia State University, Nigeria --* ***Uka-Kalu Ezinne C., Ukatu Grace C., Elekeh Rosemary I., & Uwaeme ThankGod C.***	*Chair:* **Prof. G.N. Aja** *Rapporteur:*
	2.45 -3.00pm	*Prevalence and Driving-related Factors Associated with Prediabetes and Diabetes Among Commercial Drivers in Benin City, Edo State, Nigeria--* **John Moyegbone, Ezekiel Nwose, Joseph Odoko, Emmanuel Agege, Omatseye Akuirene, & Garba Ahmed**	
	3.00 – 3.15pm	*Assessing the value of Geographic Information Systems for Identifying High-Risk Lassa Fever Outbreak Zones in Umuahia South Local Government Area of Abia State, Nigeria--* **Elekeh Rosemary I; Uka-Kalu Ezinne C & Obisike Victor Ugochukwu**	
	3.15 -3.30pm	*Hospital Management and Healthcare Services Administration of Immunization: The Case of Tuberculosis* --**Anibor Mathew, Justice Iyawa, & Abubakar Dahiru**	
	3.30 -3.45pm	**Questions and Answers Sessions**	
	4.00 -5.00pm	***Plenary 3****: Leveraging AI for Qualitative Data Analysis in Public Health Research--* **Dr. Chinenyenwa Elile, Founder & Independent Consultant, Elile Consulting, USA**	*Chair:* **Prof. G.N. Aja**
	5.00-5.15pm	**Questions and Answers Sessions**	

Abstract Presentations	2.30 - 2.45pm	*Solid Waste Segregation as a Strategy for Improved Waste Management in Port Harcourt*-- **Ogboeli Goodluck Prince, Gospel Chimenma Dimkpa, & Priscilia Nyekpunwo Ogbonda**	*Chair:* **Prof. A. Ajuwon**
	2.45 -3.00pm	*Hospital Management and Healthcare Service Administration of Ophthalmology in Nigeria*-- **Edafe. O. Emurotu & Uba Nwose**	*Rapporteur:*
Parallel Sessions Two	3.00 – 3.15pm	*Knowledge, Attitude, and Perception of Hepatitis-B Vaccine Among Pregnant Women Attending Primary Health Facilities in Obio-Akpor Local Government Area, Rivers State*--**Nwinee Zorka, Amaka Azubuike Ogba, Priscilia Nyekpunwo Ogba, & Anthony Ike Wegbom**	
	3.15-3.30pm		
	3.30 -3.45pm	**Questions and Answers Sessions**	
	4.00 -5.00pm	***Plenary 3****: Leveraging AI for Qualitative Data Analysis in Public Health Research_* **Dr. Chinenyenwa Elile Founder & Independent Consultant, Elile Consulting, USA**	*Chair:* **Prof. G.N. Aja**
	5.30-6.30pm	**APHTReS AGM**	**All**

DAY THREE:

WEDNESDAY, 8th OCTOBER 2025

	Time	Topic	Facilitators
	8.30 – 9.00am	**Arrival And Registration of Delegates**	
	9.00 -10.00am	Keynote Presentation 4: *Harnessing the Potential of AI Tools for Student Thesis Research and Writing: An Appreciative Inquiry* **Dr. Dan Namanya & Mennen Pearl Talibong,** College of Theology, Adventist University of the Philippines (AUP)	*Chair:* **Prof G.N Aja**
	10.00-11.00am	**Keynote Presentation 5**: **Prof. Eze Kingsley Nwangwa** College of Health Sciences Delta State University, Abraka, Nigeria	
	11.00-11.30am	**Health Break**	
Abstract Presentations	11.30 -11.45pm	*Ethical Imperatives on the Use of Artificial Intelligence (AI) in Learning and Self-Development for Public Health Professionals*--**Saheed Akinmayowa Lawal, Oghenetega Onome, Nkechinyere Maku, John Adekeye, & Emmanuel Oladimeji Folorunso-Ako**	*Chair:* **Prof. A. Ajuwon**
Parallel Sessions One	11.45 -12.00pm	*The Potential of Management of Type 2 Diabetes and Hypertension in Ogun State Hospitals Using Artificial Intelligence* -- **Ucheh Bernadette Ifeoma, Onabanjo Oluseye Olusegun &Micheal Nancy Erica**	*Rapporteur:*
	12.00 -12.15pm	*Qualitative Assessment of the Level of Care and Efficacy at Sickle Cell Clinics in Delta State*-- **Okwe UN, Nwose EU &Ofili CC**	
	12.15 -12.30pm	*Stress Management-Reduction Continuum Model for Healthcare Workers in Organisations: Evaluation Phase*-- **Etim John John, Nja Glory M. E., Esu Ekpereonne B., & Ndep Antor O.**	
	12.30 - 12.45pm	*Digital Applications for Effective Waste Management and Job Creation in Nigeria*-- **Chibuzor Odogwu and Uba E. Nwose.**	
	12.45- 1.00pm	**Questions and Answers**	
	1.00 -1.30pm	**Lunch Break**	
	1.30-1.45pm	*Knowledge, Attitude, and Practice of the Use of Herbal Plant Products in the Management of Diabetes and Diabetic Retinopathy Among Residents in Rural Communities in Delta State, Nigeria*--**Maduabuchukwu Innocent Nkollo**	
	1.45-2.00pm	*Practice of Breast Self-Examination Amongst Female Undergraduate Students*--**Priscilia Nyekpunwo Ogbonda, Olawole Paul Otaru, & Idawarifa Frank Cookeygam**	
	2.00-2.15pm	*A Medicinal Plant Cassia occidentalis Against Bacterial Infections: A Reflection*-- **Caleb Ndako Angulu, Aminu Ado, Ignatius Mzungu, & Godiya Peter Mamman**	

	2.15-2.30pm	*Awareness, Knowledge, and Usage of Pre-Exposure Prophylaxis (Prep) Among Youths in Ikom Local Government Area, Cross River State, Nigeria*---**Akpan Margaret Inemesit, Obu Ndika Sunday, Dino Bright Stephen, Akpan Abasiofon Inemesit, Akpan, Inemesit Asuquo, Nneka Agbiji, & Ubah Chioma Benson**	
	2.30-2.45pm	*Men's Knowledge, Attitudes, and Participation in Family Planning Decision-Making in Selected Communities of Uturu, Abia State, Nigeria*-- **Obisike Victor Ugochukwu, Nnajiuba, Juliet Ijeoma, Okoro Nmesoma Grace, & Udeme Esther Ogechi**	
	2.45-3.00pm	*Assessing the Environmental and Health Implications of Poor Solid Waste Disposal Around Aluu/Obiri Ikwerre Dump Sites in Port Harcourt, Rivers State*-- **Gospel Chimenma Dimkpa, Ogboeli Goodluck Prince, Priscilia Nyekpunwo Ogbonda, &Darlington N. Kilay**	
	3.00-3.15pm	*Assessment of Activities of Community Health Workers in Disease Prevention in Selected Facilities in Rivers State, Nigeria*--**Priscilia Nyekpunwo Ogbonda, Olawole Paul Otaru, & Idawarifa Frank Cookeygam**	
	3.15-3.30pm	*Exploring the Role of Fura Da Nono as a Nutritional Therapy Among Children in Northern Nigeria*-- **Zullaihat Muhammad Abdullahi, Musa Yusuf, Peters Esegbue, Christabel Charles, Malachi Babangida Peter, & Ezekiel Uba Nwose**	
	3.30-3.45pm	*Hospital Management and Healthcare Services in Blood Banking: A Theoretical Synthesis*-- **Ifeanyi Uchechukwu Victor**	
	3.45-4.00pm	**Questions and Answers Sessions**	
	4.00-5.00pm	**Plenary 6**: *Harnessing Generative AI to Transform Public Health Teaching, Research, and Community Engagement* --**Dr Oyindamola Akinso, Davidson College, North Carolina, USA**	*Chair:* **Prof. G.N Aja**
	5.00 -6.30pm	**==Closing Ceremony Activities** --Group Photographs etc--- **==Reading of Communique==**	**APHTRES EXECUTIVE COMMITTEE**
Abstract Presentations **Parallel Session Two**	11.30 -11.45pm	*Providing HIV Testing Services to Women of Reproductive Age in Camps for Conflict-Affected Internally Displaced Persons in Taraba State, North-East Nigeria*-- **Sonnen Atinge, Mobolanle Balogun, Omobola Y. Ojo, Ahmed K. AbdulMumin, & Ezekiel U. Nwose**	
	11.45 -12.00pm	*Determinants of Healthcare Accessibility and Utilization Among Diabetic Patients in Gamawa LGA, Bauchi State, Nigeria*-- **Abdulbaqi Alhaji Magaji**	
	12.00 -12.15pm	*Prevalence and Socio-Demographic Correlates of Blood Pressure and Blood Sugar Levels Among Outpatients at a Health Awareness Campaign in Amai, Delta State*--**Christabel Nneka Ogbolu, Michael Ogochukwu Otutu, Loveth Onuwa Okololise, Justice Iyawa, Otovwe Agofure, & Ezekiel Uba Nwose**	

	12.15 -12.30pm	*Hepatitis B Vaccine Uptake and Associated Factors Among Pregnant Women Attending Primary Health Care Facilities in Obio-Akpor Local Government Area, Rivers State, Nigeria--*__Anthony Ike Wegbom, Zorka Nwinee, & Priscilia Nyekpunwo Ogbonda__	
	12.30 - 12.45pm	*Knowledge of Cervical Cancer and Prevalence of Pre-cancerous Lesions Among Rural Women in Ondo State, Nigeria--*__Ayobami Susannah Oyedeji, Otovwe Agofure, Adetumi A. Subulade, Omolade, & Mobolaji Salawu__	
	12.45- 1.00pm	**Questions and Answers**	
	1.00 -1.30pm	**Lunch Break**	
	1.30-1.45pm	*Knowledge And Preventive Practices of Breast Cancer Among Female Law Students of Osun State University, Nigeria--* __Christiana A. Oluleti, Umar N. Jibril, & Samson O. Akande__	
	1.45-2.00pm	*Prevalence of Alcohol Use Disorder Among Healthcare Professionals in Federal Medical Center Yenagoa, Bayelsa State, Nigeria--* __Emmanuel Jessica Chidinma, Okwelum Anthonia Onyenibe, & Nwoko-Omere Chiyanigam Kindness__	
	2.00-2.15pm	*Assessment of Water, Sanitation, Hygiene (WASH) Facilities and Practices, and their Public Health Implications in Primary Schools in Aba South LGA, Abia State--* __Obisike Victor Ugochukwu, Okoro Nmesoma Grace, Nnajiuba Ijeoma Juliet, & Udeme Esther Ogechi__	
	2.15-2.30pm	*Knowledge, Attitude and Practice of Malaria Prevention Among Pregnant Women Attending Antenatal Clinic in Ilishan- Remo, Ogun State--*__Divine C. Ezeagwula, Sarah S. Jatau, Divine C. Odum, & David C. Ezeocha__	
	2.30-2.45pm	*Skin and Nasal Colonization of Pigs by Multidrug Resistant Bacterial Species in Abakaliki, Southeastern Nigeria: Implications for Public Health--* __Ekenem Grace Ukpai, Chukwuemeke Jude Igborgbor, & Lucy Unoma Oshilonyah__	
	2.45-3.00pm	*Knowledge And Perceived Health Effect of Indoor Air Pollution on the Respiratory Health of School-Age Children in Southern Senatorial District Cross River State Nigeria--* __Akoto Blessing Ogheneojiyovwi, Favour Achi Inyang-Ogim, Daniel Orji, & Chimaobi Mercy Chukwudinma__	
	3.00-3.15pm	*A Comparative Study of Back Pain Among Taxi and Truck Drivers in Port Harcourt, Nigeria ---* __Nwachukwu Nwanneka, & Daprim Ogaji__	
	3.15-3.30pm	*Prevalence And Factors Associated with Hypertension Among Commercial Drivers in Benin City, Edo State, Nigeria--* __John Moyegbone, Ezekiel Nwose, Joseph Odoko, Emmanuel Agege, Omatseye Akuirene, & Garba Ahmed__	

	3.30-3.45pm	*Awareness, Knowledge, and Preventive Practices of Halitosis Among Undergraduates in the University of Calabar*--**Akpan Margaret Inemesit, Agbiji, Nneka Ndifon, Akpan Inemesit Asuquo, Akpan Abasiofon Inemesit, Nwogwugwu, Jane Chigozie, & Ubah Chioma Benson**	
	3.45-4.00pm	**Questions and Answers Sessions**	**Chair: Prof. G.N Aja**
	4.00-5.00pm	**Plenary 6**: *Harnessing Generative AI to Transform Public Health Teaching, Research, and Community Engagement* **--Dr Oyindamola Akinso, Davidson College, North Carolina, USA**	
	5.00 -6.30pm	**==Closing Ceremony Activities** --Group Photographs etc--- ==Reading of Communique==	**APHTRES EXECUTIVE COMMITTEE**

**BOOK
OF
ABSTRACTS**

Keynote Speakers' Abstract

The Development of Trustworthy Dialogue Systems and the Role of Generative AI in Global Public Health

by

Professor Andreas Martins

In his keynote, Prof. Andreas Martin explores the development of trustworthy dialogue systems and the role of generative AI in global public health. Drawing from the HIVBOT project—a multidisciplinary, international research initiative—he presents a hybrid AI approach that combines symbolic knowledge engineering with large language models (LLMs). The talk critically examines the limitations and ethical risks of applying off-the-shelf LLMs in healthcare, including misinformation, bias, lack of contextual understanding, and alignment challenges. Prof. Martin introduces a framework for designing safe and effective health chatbots, incorporating model selection, prompt engineering, safety guardrails, conversational design, and privacy protection. He also outlines current and future research directions aimed at improving linguistic inclusivity, factual reliability, and the semantic verification of AI-generated medical responses. His keynote offers a vision for building AI-powered digital health companions that are not only technically robust, but also ethically grounded and socially responsible.

Harnessing Generative AI to Transform Public Health Teaching, Research, And Community Engagement

Oyindamola Akinso, DRPH, MPH, MCHES®
Davidson College, NC, USA

6th International Public Health Conference

When generative artificial intelligence (AI) tools became widely available in late 2022, educators and administrators faced uncertainty and concern, questioning whether AI use should be restricted or even banned. However, students are not going to stop using AI tools, and if institutions truly believe that AI skills are as essential as other educational priorities, they must rethink how they teach. As Willis states, *"At a baseline, we need to think about how we engage students, avoiding assignments that AI can easily complete."* The conversation has shifted from *whether* we should embrace AI to *how* we can integrate it ethically and effectively to enrich learning, research, and community impact.

Drawing on experiences teaching across four U.S. universities, the past two years have been dedicated to leveraging AI to transform **teaching, research, and community engagement** in public health. In the classroom, AI has enhanced pedagogy by streamlining curriculum design, improving syllabus clarity, and creating dynamic and interactive learning environments through case studies and robust discussion boards. In research, AI has accelerated literature reviews, supported data analysis, and facilitated the development of novel public health insights. In community engagement, it has supported the design of culturally relevant health education materials and strengthened collaborations with diverse stakeholders.

This session offers a **hands-on, applied framework** for educators and students to use AI responsibly, guided by the principles of **Trust, Transparency, and Security**. Participants will engage in live demonstrations, exploring how to design public health case studies, craft data-informed outreach materials, and develop discussion prompts that foster critical thinking and authentic engagement.

By the end of this session, attendees will leave with **practical strategies and tools** to integrate generative AI across education, research, and community initiatives, equipping the next generation of public health leaders to navigate and shape an AI-driven future.

Keywords: Generative AI, Public Health Education, Research, Community Engagement, Pedagogy, Curriculum Design, Responsible AI, Student Engagement, Innovation, Digital Learning

Harnessing The Potential of AI Tools for Student Thesis Research and Writing: An Appreciative Inquiry

Dan Namanya
Mennen Pearl Talibong

This study is an appreciative inquiry on the use of AI tools in student research and thesis writing. Grounded in the 4D model of appreciative inquiry, the research explored the positive experiences of students using AI chatbots for thesis writing, their vision for the ideal role of AI, strategies to maximize the positive impact of AI chatbots, and ways to foster a culture that embraces AI technology in research while maintaining academic integrity. The study employed a qualitative approach, utilizing focused group discussions and semi-structured interviews with undergraduate students actively engaged in thesis writing. The findings suggested that students valued the efficiency and productivity gains enabled by AI tools, such as rapid literature summarization and real-time feedback on writing. However, they also expressed concerns about the potential impact on critical thinking and originality.

This study provided valuable insights for students, faculty, and academic institutions. It recommended the implementation of faculty training programs and the establishment of clear guidelines to ensure the responsible and ethical use of AI technologies in scholarly pursuits.

Keywords: AI tools, student research, Appreciative inquiry, academic integrity.

From Prediction to People - Harnessing AI for Precision Public Health and Community Impact

By

Professor Oyedunni Arulogun
Vice-Chancellor
Chrisland University, Abeokuta

Artificial Intelligence is reshaping the very foundations of public health—bridging the laboratory, the classroom, and the community. On one hand, predictive analytics and precision modeling are giving researchers powerful tools to forecast epidemics, anticipate risks, and design data-driven interventions. On the other, AI-powered educational technologies and community platforms are bringing health knowledge to doorsteps, empowering citizens, and strengthening trust between institutions and the people they serve. This keynote will chart the journey from algorithms to action—demonstrating how cutting-edge AI research can translate into equitable, culturally relevant, and sustainable community health outcomes. It will challenge educators, researchers, and practitioners alike to envision a future where innovation is not an elite privilege, but a shared resource that uplifts even the most marginalized. Participants will leave with fresh insights into building a public health ecosystem where data guides decisions, technology amplifies voices, and communities thrive.

Association of Public Health Teaching, Research, and Service (APHTReS)

6th International Public Health Conference

**Leveraging AI for Qualitative Data Analysis
in Public Health Research**

Chinenyenwa Elile (MPH, PGDip, MBBS)

How can artificial intelligence change the way we listen to and learn from people's stories in public health? Artificial Intelligence (AI) is reshaping the way qualitative research is conducted, creating new opportunities for analyzing and interpreting data. Drawing on professional reflections, this keynote will explore how AI-enhanced tools such as Nvivo, MAXQDA, and similar platforms are transforming approaches to qualitative research and program evaluation. With features such as auto-coding, theme clustering, and data summarization, these technologies offer new ways to make sense of complex experiences and diverse perspectives, supporting more inclusive community-engaged research in public health, an approach where communities are active partners throughout the research process.

Aligned with the conference theme, *"Intelligence & Educational Technology in Public Health Teaching, Research and Community Service,"* under the sub-theme of *digital health and innovations*, this session will highlight both the benefits and the limitations of applying AI-enhanced tools in qualitative work. Particular attention will be given to ethical considerations and the practical implications for students, researchers, and public health practitioners working across diverse contexts, locally and globally.

Attendees will leave with a clearer understanding of how AI can strengthen qualitative research and advance public health practice, not by replacing human judgment, but by expanding what is possible in the analysis and communication of data. They will also leave with thoughtful questions to navigate its opportunities and challenges. As these technologies continue to advance, we too must evolve.

Artificial Intelligence, Educational Technology and Health

Ethical Imperatives on the Use of Artificial Intelligence (AI) in Learning and Self-Development for Public Health Professionals

[1]Saheed Akinmayowa Lawal, [2]Oghenetega Onome, [1]Nkechinyere Maku, [1]John Adekeye, and [1]Emmanuel Oladimeji Folorunso-Ako

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Background and Aim: The use of Artificial Intelligence (AI) in learning and self-development for public health professionals presents transformative opportunities, with the potential to develop their capacities. However, its adoption raises critical ethical concerns that must be addressed to ensure the responsible use of AI. This paper explores the ethical imperatives guiding AI applications in public health professional development, emphasizing the need for balance between innovation and moral accountability.

Methodology: Aristotle's virtue ethics highlights the importance of building moral character and exercising practical wisdom as the foundation of a good life. Applied to AI, this perspective reminds public health professionals to approach technology with qualities like prudence, honesty, fairness, compassion, humility, and courage, ensuring that their use of AI reflects sound judgment and ethical responsibility. Virtue ethics is used to analyse the subject-matter.

Results: As public health professionals seek continuous improvement and development, certain key ethical challenges they may be faced with will include privacy of data, transparency, accountability, and equity. That is, public health professionals tend to depend on vast array of information and data to enhance their learning experience, risking breaches of confidentiality if AI platforms are inadequately secured. Lack of transparency in AI decision-making undermines trust, while unclear accountability structures complicate responsibility for errors. Additionally, unequal access to paid AI tools may widen gaps in professional development, intensifying existing inequities in public health practice. Addressing these ethical concerns requires robust guidelines and frameworks from existing public health bodies/associations based on upholding the virtue of the profession. More so, the need to include strict data protection policies is vital to safeguard public health professionals. Stakeholders-public health educators, policymakers, and AI developers must collaborate to ensure that AI tools are equitable, transparent, and accountable. Continuous monitoring and ethical training for public health professionals are essential to foster responsible AI adoption.

Conclusion and Recommendations: Although AI holds immense potential for enhancing learning and self-development in public health, its ethical implications cannot be undermined. Active measures must be implemented to safeguard privacy, promote fairness, and ensure inclusion. By adhering to ethical imperatives (virtue), public health professionals can harness AI's benefits while upholding moral and professional standards.

Keywords: Artificial Intelligence, Ethics, Learning, Public Health, Self-Development

Perceived Effects of Excessive Use of Telecommunication Devices Among Students in Novena University, Ogume, Delta State, Nigeria

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Background and Aim: The exponential growth of telecommunication technology has significantly influenced student lifestyles, communication, and academic practices. Devices such as smartphones, tablets, and laptops are now integral to university life, but their excessive use has raised health concerns globally. This study aimed to assess the knowledge, attitudes, and practices regarding telecommunication device use among students at Novena University, Ogume, Delta State, Nigeria, with a particular focus on the associated health risks and sleep disturbances.

Methodology: A cross-sectional survey design was adopted, using a pre-tested, semi-structured online questionnaire distributed via WhatsApp and one-on-one interviews. A total of 370 completed the questionnaire, which elicited socio-demographics information, awareness of health risks, usage patterns, attitudes, and sleep quality. Data were analyzed using SPSS version 22.0, with results presented in descriptive statistics.

Results: Findings revealed that all students owned at least one telecommunication device, with 153 students possessing multiple. While 70.5% of respondents were aware of potential health risks, including brain damage (58.1%), hearing loss (62.9%), and eye defects (71.0%), 29.4% had no awareness of any associated risks. A substantial number of students (35.6%) reported using devices for over 10 hours daily, primarily for social media (95.1%) and internet chatting (93.2%), with only 61.3% using them for academic purposes. Attitudinally, 44.8% preferred texting to calls, and 30.2% favored chatting online over face-to-face interaction. About 68.1% reported frequent late-night wakefulness, and 51.3% attributed this to device usage. Furthermore, 60.8% slept only 4–6 hours per night, while 20% reported critically low sleep durations of 1–3 hours. These findings support previous literature indicating that excessive screen time impairs sleep by suppressing melatonin production.

Conclusion And Recommendations: Although students demonstrated moderate awareness of health risks, their behavioral patterns reflected problematic device use, particularly regarding screen time and sleep hygiene. The study recommends targeted digital literacy campaigns, sleep education programs, and the implementation of university-level policies to monitor and reduce excessive screen exposure. Emphasis should also be placed on promoting healthier academic and social use of telecommunication technologies. Group works, class discussion and presentation should be enabled to increase comfort with physical conversations to aid reduction of social anxiety.

Keywords: Telecommunication, Screen time, Sleep disturbances, Digital health, University Students.

Awareness And Utilization of Mobile Health Applications for Disease Prevention and Self-Care Management Among Public Health and Nursing Undergraduates in Abia State University, Nigeria

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Background and Aim: Mobile health (mHealth) applications have become significant tools in disease prevention and improved health outcomes, particularly for young adults in higher education. This study investigated the awareness and utilization of mHealth applications for health information, disease prevention and self-care management among public health and nursing undergraduates at Abia State University, Uturu, Nigeria.

Methodology: A cross-sectional descriptive research design was adopted with a sample of 350 students selected through stratified and random sampling. Data on socio-demographic characteristics, awareness of mHealth apps, patterns of utilization, and perceived barriers were collected using a structured questionnaire and analyzed using SPSS version 23.0.

Results: The majority of the respondents had high level of awareness (88.9%) of mHealth applications, with menstrual tracking apps (60%) and fitness tracking apps (57.1%) being the most recognised. Utilisation rate stood at 66.6%, with menstrual (62.2%) and fitness trackers (59.7%) being the most frequently used apps. Key influencing factors for usage included age, gender, income, department, and academic level (p<0.05). Major barriers included poor internet connectivity (46.8%), unreliable information (37.3%), app crashes (23.2%), and privacy concerns (19.7%).

Conclusion and Recommendations: Awareness and use are relatively high. However, there is need for targeted interventions to address usability and reliability issues, improve digital health education, and foster greater integration of mHealth tools into academic health programs.

Keywords: Mobile Health, mHealth apps, Utilisation, Undergraduate Students, Digital Health

Ethical Considerations on the Use of Artificial Intelligence (AI) for Developing Public Health Curriculum in Nigeria

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Background and Aim: Artificial Intelligence (AI) use in public health curriculum development in Nigeria offers potential immense benefits to enhance public health education across undergraduate and postgraduate levels. Yet, the use of AI raises critical ethical concerns that must be addressed to ensure responsible use of this technology in education. This paper examines the ethical implications of using AI in designing public health curricula, focusing on fairness, accountability, and cultural relevance within the Nigerian context.

Methodology: The application of Beauchamp and Childress (2013) ethical principles is used to discuss why ethical considerations are important in the use of AI for developing public health curriculum in the Nigerian context. Key ethical challenges include over reliance on AI tools to generate the entire curriculum void of human oriented perspectives. This raises the question of fairness as human involvement is grossly limited. Additionally, any AI-driven curriculum development must respect the input, preferences, and rights of educators, students, and local stakeholders. This ensures that the lack of transparency in AI decision-making processes which poses a risk to curriculum integrity is addressed. There are also concerns about the potential displacement of human educators and the question on whether AI is culturally sensitive.

Results: The ethical use of AI in public health curriculum development requires a clear understanding of the ethical principles that provides foundational insights on the "dos" and "don'ts" on what is right and wrong. The lack of guidelines on use of AI by tertiary institutions in the country is an ethical concern. This poses a dilemma because in the absence of guidelines users cannot be accused of inappropriate use of this technology. Public health curriculum experts must ensure that their use of AI tools conforms to national and institutional guidelines on AI adoption while maintaining academic rigor. Furthermore, the continuous monitoring and ethical assessments are essential to uphold accountability and trust in the use of AI.

Conclusion and Recommendations: Despite the **potential** significant benefits and potential of AI use for public health education in Nigeria, its ethical deployment demands careful consideration of fairness, transparency, and inclusion.

Keywords: Artificial Intelligence, Curriculum Development, Ethics, Nigeria, Public Health.

Integrating Artificial Intelligence for Environmental Health Education:
A Design Thinking Approach

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Background and Aim: Artificial Intelligence (AI) is rapidly becoming a powerful tool in public health (PH) teaching, research, and community service. However, a key challenge is ensuring that AI-generated PH output is culturally appropriate and relevant to the human community. This pilot project highlights how AI-generated content on waste management (WM) was integrated into a gamified educational program and assessed for relevance among students enrolled in a Master of Public Health (MPH) program.

Methodology: This cross-sectional study utilized the design thinking model (a human-centered iterative framework) to (a) define the types of waste, proper disposal practices, and environmental impact via AI, (b) ideate on the most suitable solution to ensure human engagement in WM, (c) prototype to create a Kahoot! game on WM, and (d) test the perceived relevance of the AI-generated content among a convenience sample of nine students enrolled in a Planning and Evaluating Health Promotion Programs class at a tertiary institution in the Philippines, using the Suitability Assessment Method (SAM) instrument. Each assessed factor (content, literacy demand, graphics, layout and typography, learning stimulation and motivation, and cultural appropriateness) was assigned a maximum possible score of 8, 10, 10, 6, 6, and 4, respectively. Participants rated the AI-generated material against specific criteria within each factor and scored each item as 2 (superior), 1 (adequate), or 0 (not suitable). The item scores were summed up to give the observed score for each factor. All factor scores were added up to get the total observed score. The total observed score was divided by the maximum possible score of 44. A percentage score of 70–100% was rated as superior, 40–69% as adequate, and 0–39% as not suitable.

Results: The SAM achieved an overall score of 66.1% reflecting adequate suitability. Strengths of the AI material included clarity, engaging, and visually attractive graphics. However, the participants noted limitations in font size, layout, cultural tailoring, and the clarity of certain images and guidance cues. The language was generally appropriate, and the material appeared to be adult-oriented.

Conclusions and Recommendations: The design thinking model enabled the integration of human-centered perspectives into AI-generated content, while SAM evaluated its relevance. AI-simplified content and live facilitation by human subjects provided valuable discussion, personal engagement, and deeper understanding. Our model emphasizes the value of both AI and human engagement in promoting proper waste management.

Keywords: Artificial Intelligence (AI), Gamification, Environmental Education, Waste Disposal, Design Thinking, Suitability Assessment Method, SAM.

Assessing the Value of Geographic Information Systems for Identifying High-Risk Lassa Fever Outbreak Zones in Umuahia South Local Government Area of Abia State, Nigeria

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Background and Aim: Lassa fever (LF) remains a persistent public health threat in Nigeria, with Umuahia South Local Government Area (LGA) in Abia State experiencing documented outbreaks. A confirmed Lassa outbreak was reported in the Federal Medical Center (FMC) Umuahia. This study evaluates the application of Geographic Information Systems (GIS) in identifying high-risk LF zones within Umuahia South LGA through spatial epidemiology and environmental analysis.

Methodology: A comprehensive literature search was performed to identify the environmental factors that influence the transmission of LFV via the *Mastomys* rat. Consequently, a field visit was made to objectively assess the study area and obtain relevant attribute data, and spatial analysis was performed using GIS technology

Results: The study identified three critical high-risk communities requiring prioritized intervention: Olokoro, Apumiri Ubakala, and Nsirimo. Analysis revealed distinct spatial clustering of LF cases correlated with specific environmental determinants particularly proximity to rodent habitat in agricultural storage areas and seasonal variation in vegetation density. Our GIS-generated risk maps achieved 82% accuracy in predicting outbreak locations when validated against historical outbreak data. High-risk communities exhibited significantly reduced travel times to healthcare facilities compared to medium-risk zones. Implementation challenges include limited technical capacity and data fragmentation across sectors.

Conclusion and Recommendations: This research provides evidence-based justification for adopting GIS technology as a core component of LF surveillance and control strategies in Abia State, recommending targeted rodent control, enhanced community surveillance, and institutional capacity building within a One Health framework.

Keywords: Lassa fever, Geographic Information Systems, Outbreak prediction, Spatial epidemiology, Zoonotic diseases

Telemedicine and Artificial Intelligence in Strengthening Primary Health Care in Rural Nigeria

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Background and Aim: Primary Health Care (PHC) forms the backbone of Nigeria's health system, yet rural communities continue to face challenges such as shortage of health workers, weak infrastructure, and poor access to essential services. Telemedicine and Artificial Intelligence (AI) have emerged as innovative tools that can help close these gaps by improving access, supporting frontline workers, and strengthening decision-making. This paper presents a narrative review of available literature to examine how telemedicine and AI have been applied in similar contexts, and to discuss their potential contributions, opportunities, challenges, and policy implications for strengthening PHC delivery in rural Nigeria.

Methodology: This review adopted a narrative synthesis approach. Literature was identified through structured searches of PubMed, Google Scholar, and African Journals Online (AJOL), covering the period 2015–2025. Inclusion criteria were peer-reviewed articles, policy briefs, and case studies examining telemedicine or AI applications in strengthening PHC in low- and middle-income countries, with emphasis on Nigeria. Exclusion criteria included studies not related to PHC, duplicate publications, and articles not available in English. Quality assessment was performed using adapted criteria from the Joanna Briggs Institute appraisal tools, focusing on clarity of objectives, methodological rigor, and relevance. Data were extracted on study setting, type of intervention, outcomes, and challenges. Findings were synthesised thematically, and elements of PRISMA guidelines were considered to ensure clarity, transparency, and replicability.

Results: The reviewed literature consistently highlighted that telemedicine improves access to care in rural areas by enabling remote consultations and reducing the need for long-distance travel. Studies from Nigeria and other LMICs reported reduced missed appointments, improved patient follow-up, and greater patient satisfaction. AI-powered tools such as decision-support systems, mobile health applications, and chatbots were found to assist in diagnosis, guide treatment decisions, and provide training support for frontline health workers. Evidence from Nigerian pilot initiatives, including mDoc's virtual health coaching and the Lagos State telemedicine project during COVID-19, demonstrated feasibility and acceptability. In addition, data from these studies indicated enhanced disease surveillance and faster access to specialist consultations. Persistent barriers, however, included inadequate digital infrastructure, limited internet access, high implementation costs, low digital literacy, and concerns about patient confidentiality. Together, these findings suggest that while telemedicine and AI hold promise, scaling up requires addressing systemic, infrastructural, and policy challenges.

Conclusion and Recommendations: Telemedicine and AI have significant potential to complement existing health resources and strengthen PHC delivery in rural Nigeria. To achieve sustainable scale, government investment in digital infrastructure, training of health workers, and strong public-private partnerships are required. Community sensitization is also essential to build trust and acceptance of digital health interventions. With the right policies and coordinated implementation, telemedicine and AI can play a meaningful role in advancing Nigeria's progress toward Universal Health Coverage.

Keywords: Telemedicine, Artificial Intelligence, Primary Health Care, Rural Health, Nigeria

Telemedicine and Artificial Intelligence in Cardiovascular Disease Risk Evaluation Among Teachers, Ondo West Local Government Area: Policy Implications for Advancing Preventive Health Measures

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Background and Aim: Cardiovascular diseases (CVDs) remain a leading cause of morbidity and mortality worldwide, with an increasing burden in low- and middle-income countries. Early identification of individuals at high risk is crucial for prevention, yet in Nigeria, routine cardiovascular risk assessment among occupational groups such as teachers is limited. Advances in telemedicine and artificial intelligence (AI) offer innovative approaches to streamline risk evaluation, enable early detection, and inform evidence-based preventive interventions. This study assessed the integration potential of telemedicine and AI tools in evaluating CVD risks among secondary school teachers in Ondo West Local Government Area (OWLGA), Ondo State, and examined the policy implications for strengthening preventive health measures.

Methodology: A descriptive cross-sectional study was conducted among 360 teachers from 18 randomly selected secondary schools (11 public and 7 private) using a multi-stage sampling technique. Data were collected in two phases: (i) a self-administered, pre-tested questionnaire assessing socio-demographic characteristics, CVD knowledge, lifestyle habits, and digital health literacy; and (ii) cardiovascular risk evaluation using a telemedicine-enabled AI platform that analysed anthropometric, behavioural, and clinical data (e.g., blood pressure, BMI, family history, and lifestyle risk factors). The AI model generated individualised risk scores categorised as low, moderate, or high risk. Data were analysed using descriptive and inferential statistics on IBM SPSS version 23, with significance set at $p < 0.05$.

Results: The mean age of respondents was 35.1 ± 12.3 years, with a predominance of females (58.1%) and teachers in public schools (66.9%). Awareness of CVDs was reported by 68.8% of participants, yet only 3.6% demonstrated good knowledge, and 52.8% had poor knowledge. Telemedicine-assisted AI evaluation revealed that 21.4% of teachers were at high cardiovascular risk, 38.6% at moderate risk, and 40.0% at low risk. High-risk status was significantly associated with unhealthy lifestyle habits such as frequent consumption of junk food (79.7%), regular intake of red meat (82.4%), palm oil use (88.1%), alcohol consumption (30.6%), and smoking (10.8%). Teachers with higher digital health literacy were more receptive to AI-based risk screening ($p<0.01$). Barriers to technology uptake included concerns over data privacy, inadequate infrastructure, and limited training in telehealth use.

Conclusion and Recommendations: The integration of telemedicine and AI into cardiovascular risk evaluation among teachers in OWLGA demonstrates significant potential for early detection and targeted intervention. However, low baseline knowledge, unhealthy behaviours, and infrastructural constraints limit optimal utilisation. Policy measures should prioritise (i) digital health capacity building for educators, (ii) investment in secure telemedicine platforms, (iii) integration of AI-driven screening into routine school health programmes, and (iv) community-wide health promotion campaigns addressing diet, physical activity, and tobacco/alcohol use. Strengthening legal frameworks on data privacy will also be critical to building trust and adoption of digital health tools. Such interventions can advance preventive healthcare strategies and reduce the growing burden of CVDs in Nigeria.

Keywords: Cardiovascular disease, Telemedicine, Artificial intelligence, Teachers, Risk evaluation, Policy implications

Exploring the Knowledge of Undergraduate Medical Students on Mobile Application Technology to Improve Learning Outcomes in Nigeria

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Background and Aim: Smartphone and mobile application technology have become an integral part of medical education. These tools provide means to improve learning, access to learning materials, collaboration, and networking, thereby enhancing learning outcomes. In addition, mobile application technology helps to bridge the gap between undergraduate students' theoretical knowledge and practical applications in clinical settings. The objective of this research was to assess studies that explored awareness and knowledge of undergraduate medical students regarding mobile applications for communications, collaborations, learning, and training to improve learning outcomes. The research questions include: What common tasks are carried out by medical students using mobile technology? What are the mobile applications that dominate mobile technology-based medical education? Which mobile applications are mostly used by medical students for learning?

Methodology: A systematic literature search was conducted on different electronic databases such as Google Scholar, IEEE Xplore, Scopus, PubMed, and Web of Science. We identified 152 articles published between 2022 and 2025 in mobile applications for medical education using the search term ("mobile application" OR "app" OR " OR "mobile phone" OR "smartphone" OR mobile learning" OR "m-learning" OR "e-learning") AND ("knowledge" OR "academic performance") AND ("undergraduate medical students") AND ("medical" OR "health") AND ("Education" OR "Training") AND ("Nigeria"). Some of the articles were excluded based on certain criteria, such as not being relevant to the research questions and review letters or communication to the editors. After excluding duplicate copies and screening for full text, a total of 11 articles were included in the final review. All the extracted articles were independently evaluated by all the researchers for clarity and bias. Then, the studies were independently synthesized. The articles evaluated include those on mobile technology and mobile applications for undergraduate medical students' training and knowledge acquisition, and updating

Results: The synthesis of the studies evaluated showed that undergraduate medical students utilize mobile applications for various tasks, including communication, collaboration, training, and peer-to-peer interactions. In addition, undergraduate students utilize mobile applications for knowledge updating, academic podcasts, and viewing academic content. Mobile applications such as UpToDate, Dynammed, and Medscape are popular mobile apps for knowledge updating, while Spotify, App podcast, and Google podcast are utilized to play and listen to podcasts related to medical training and lectures. Moreover, students deploy the use of a YouTube app to play academic content while social networking apps such as Facebook, X (Twitter), TikTok, WhatsApp, and Instagram are used for peer-to-peer interactions and communications.

Conclusion and Recommendation: Mobile application technology and smartphones have become an integral part of undergraduate learning and medical students' training. The utilization of the technology by undergraduate medical students will ensure accurate knowledge updating, enhance learning experience through personalization, and student collaborations. However, deployment of this technology must be done in collaboration with faculty and staff to reduce distractions, minimize procrastination, and lack of attention towards study and knowledge acquisition.

Keywords: Mobile technology, Mobile apps, Digital health, Academic engagement, Medical education.

The Role of Artificial Intelligence in Managing Cardiovascular Disease Risk Factors Among Young Adults at the Primary Healthcare Level in Delta State, Nigeria

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Background and Aim: Cardiovascular diseases (CVDs) is a leading cause of death and disability worldwide, particularly in low- and middle-income countries like Nigeria. Artificial intelligence (AI) has emerged as a potential game-changer in CVDs risk factors management, offering improved diagnostic accuracy, personalized treatment, and enhanced patient care that can be incorporated into community health services.
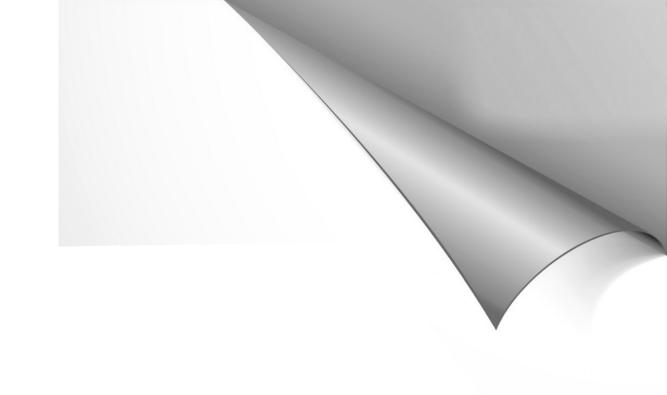
This narrative literature review aims at exploring the role of AI in the management of CVDs risk factors among young adults at the primary healthcare level. This aim would be achieved by reviewing CVDs risk factors among young adults in the study area; the importance of AI in CVDs risk assessment; the roles of AI in primary healthcare (PHC); the opportunities of AI for further development at PHC. The challenges, limitations and future direction of AI in the management of CVDs risk factors.

Methodology: A comprehensive narrative review of scholarly articles and peer-reviewed literature was conducted, within a time frame from January, 2015 to June, 2025 and using search engines such as goggle scholar, and web of science. The PRISMA-ScR approach was used to select literatures from databases such as PUBMED, Google Scholar and WHO Library and Information Networks for Knowledge Database.

Results: Using the search phrase "the role of AI   in the management of CVDs risk factors at the primary healthcare level" 28,300 articles were identified. After screening, 7,420 articles were left and a total of 270 articles were found to be eligible while only 19 articles met the inclusion criteria of the study. The result of this narrative review showed that there was a high prevalence of CVD risk factors among the study group in both Delta State and Nigeria as a whole. AI algorithms can be used to analyze large datasets, both genetic data and other clinical data, to identify patterns and predict CVD risk within the community. It sometimes helps in optimizing clinical care and reduce adverse outcome. These targeted interventions can support healthcare providers in making informed decisions about patient care, family care and by extension to community programs. In future AI-driven solutions can be integrated with Electronic Health Records (EHRs) to enhance community health services at the primary healthcare level. Also mobile apps that are powered via AI can be used to provide personalized/family/community health advice and recommendations. Difficulties envisaged with the use of AI algorithms is that it requires high quality data to produce reliable results and can perpetuate existing biases if not designed and tested with fairness and equity in mind. To develop a more effective use of AI, further research is needed to develop and evaluate AI driven solutions for CVDs risk management. And to be able to achieve the above, there should be a synergistic collaboration between healthcare providers, researchers, and industry partners.

Conclusion and Recommendations: AI has the potential to revolutionize CVDs risk factors management among young adults at the primary healthcare level in Delta state Nigeria. Further research and development are needed to realize the broader benefits of AI-driven solutions in community health services.

Keywords: Artificial Intelligence (AI), Cardiovascular risk factors, Young adult, Primary healthcare (PHC), Community health services

Child and Maternal Health

Exploring the Role of *FURA DA NONO* As A Nutritional Therapy Among Children in Northern Nigeria

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Background and Aim: Malnutrition remains a critical health challenge among children in Northern Nigeria, where economically accessible, nutrient-dense dietary options are limited. *Fura da nono* is extensively consumed and holds potential as culturally appropriate for nutrition. There has been a Work to Improve Nutrition in Northern Nigeria (WINNN) project funded by Foreign, Commonwealth and Development Office, but how the reports of key findings and recommendations of that report have been adopted *Fura da nono* in primary health care (PHC) is unknown. This study sought to ascertain how 1). the report on WINN program, has adopted it to advance management of malnutrition in PHC, and 2). if/how *Fura da nono* was integrated in the WINN project.

Methodology: This followed a critical literature review method, and two reviews were performed. First, a qualitative review of WINNN report was undertaken on 6-thematic issues of PHC functions; service delivery, health workforce, information systems, access to essential medicines, financing and leadership and governance. Secondly, empirical review of literature on *Fura da nono* quantitative nutritional composition was conducted, focusing on recent analyses of macronutrient and micronutrient composition, microbial safety, functional benefits, and traditional production practices.

Results: The WINNN report covered all PHC themes of interest, but recommendation of specific drinks did not seem to be a feature. Analytical data indicate that *Fura da nono* provides high levels of calcium 39.9-59.1mg/100ml, and magnesium 3.95-6.3mg/100ml amongst others. Contamination with pathogenic bacteria, including *E. coli*, *Staphylococcus aureus*, and *Salmonella* has been widely documented in street-vended samples of the products.

Conclusion and Recommendations: The WINNN project stopped short of integrating the economically affordable and indigenously available nutrient drinks as source of nutritional drink. Therefore, scaling up the recommendations of WINNN and integrating *Fura da nono* in PHC is necessary. To fully realize these potentials, integrating *Fura da nono* into PHC nutrition programs must be accompanied by use of artificial intelligence (AI) to standardize hygiene training, quality monitoring, and community engagement. Health education/promotion about safety of *Fura da nono* as a function of the PHC is a necessary requirement

Keywords: *Fura da nono*, Nutrition, Children, Therapy

Awareness and Knowledge of Cerebral Palsy Among Women of Reproductive Age in The Magba Sub-Division, West Region of Cameroon

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Background and Aim: High-income countries have reduced cerebral palsy (CP) prevalence by 40% over the past 15 years from 2.1 to 1.6 per 1,000 live births; however, low- and middle-income countries (LMICs) still face significantly higher rates, estimated at 3.4 per 1,000, revealing a major global health inequity.

Methodology: The main objective of this study was to assess the CP awareness and knowledge levels among women of reproductive age in Magba Sub-Division, Cameroon, using a cross-sectional community-based design. Using Cochran's formula for descriptive studies, a sample of 410 was calculated. The study employed a multistage sampling technique.

Results: Findings indicated that a significant portion of respondents, 200 (48.8%), were aged between 22-28 years, half, 203(50.0%), were single, a substantial proportion, 174 (42.4%), had primary education, and a majority, 317 (77.3%), were unemployed. More than half, 226 (55.1%), lived in semi-urban areas and a vast majority, 369 (90.0%) were aware of CP, and 145(35.4%) had community meetings as their primary source of CP information. A significant portion, 193 (47.1%), exhibited poor knowledge of CP. Chi-square analysis at 95% confidence interval revealed a statistically significant association between knowledge of CP and age (p=0.001), educational status, (p=0.001), employment status, (p=0.001) and marital status (p=0.001). Younger, less educated, unemployed, married/cohabiting and rural dwelling women tended to have poorer CP knowledge levels.

Conclusion and Recommendations: This study highlights critical gaps in awareness and knowledge concerning CP among women of reproductive age in rural areas of Cameroon. Future efforts should concentrate on implementing community-based education programs that engage women of reproductive age to enhance their understanding of CP. Artificial Intelligence (AI) and Educational Technology (EdTech) can help address the knowledge and awareness gaps on CP identified by the study in women of childbearing age in Magba, Cameroon. AI may enhance data analysis, identify patterns in CP awareness, and deliver personalized, language-specific health messages through chatbots and mobile platforms. EdTech can enhance community education through mobile-based learning, multimedia tools, and training programs tailored for health workers, particularly those in low-literacy and rural populations.

Key words: Awareness, Knowledge, Prevention, Women, Cerebral Palsy, Cameroon

Providing HIV Testing Services to Women of Reproductive Age in Camps for Conflict-Affected Internally Displaced Persons in Taraba State, North-East Nigeria

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Background and Aim: The epidemiology of HIV/AIDS during conflicts is complicated and has revealed conflicting results in different settings. Yet, women, especially internally displaced persons (IDPs), face significant barriers in accessing health care services in many conflict situations. One major gap in HIV service provision for women can be seen in the HIV testing service (HTS), which is the vital gateway to treatment, care, and support. The study aimed to determine the uptake and barriers to HIV testing services among women in IDP camps in Taraba State, North-East Nigeria.

Methodology: A descriptive cross-sectional study design was employed to collect data from 700 participants using a semi-structured, interviewer-administered questionnaire. The questionnaire was adopted from the United Nations High Commissioner for Refugees (UNHCR) Manual for Conducting HIV Behavioural Surveillance Surveys among Displaced Populations and their Surrounding Communities. It collected data on sociodemographic variables, sexual risk factors, previous uptake of HTS, and willingness to take the HIV test. Women and girls who were in the reproductive age group (15-49 years) and had lived in the IDP camp for at least 6 months before study enrollment were included in the study, while those who were living in informal camps were excluded. A multistage sampling technique was used in the selection of study participants. Seven campsites out of 14, representing 50%, were selected using simple random sampling by balloting without replacement, while respondents were then selected by systematic sampling. Free HTS were provided to consenting participants. The services were offered by trained counsellors and testers, according to the Nigerian national HIV testing algorithm. All the positive clients were referred for HIV care and treatment. The IBM Statistical Package for the Social Sciences (SPSS) version 29.0 was used for data analysis. Variables that were significant in the univariable logistic regression were included in a multivariable analysis to identify predictors of HIV testing service uptake, with statistical significance set at $p < 0.05$.

Results: The median age (IQR) of the respondents was 30.0 (18.0) years. More than half were currently married 405 (57.9%), while 47 (6.7%) were widowed. The uptake of HIV testing services was 600 (85.7%), while the prevalence of HIV was 31 (5.2%). Predictors of HTS uptake were educational level (aOR = 2.443, CI 1.064 – 5.610), duration in camp (aOR = 0.568, CI 0.323 – 0.999) and history of forced sex (aOR = 5.440, CI 1.194 – 24.785). Notable among barriers to uptake of HIV testing services were fear of stigma and discrimination, unavailability of testing services in the camps, distance to health facilities, and cost of testing and other related services

Conclusion and Recommendations: The uptake of HIV Testing Services, and the prevalence of HIV were high in the study population. Government at all levels and Non-Governmental Organisations (NGOs) should include IDPs in their HIV control programmes to improve HTS and reduce the HIV burden among displaced persons. Such programmes should be guided by research and specific needs as identified in this study.

Keywords: HIV testing, Displaced persons, North-East, Nigeria.

Knowledge and Practice of Exclusive Breastfeeding Among Lactating Mothers in Rivers State, Nigeria

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Background and Aim: Exclusive breastfeeding for the first six months is essential for optimal infant growth and survival, yet adherence remains low in many settings. This study assessed the knowledge, attitudes, and practices of exclusive breastfeeding among lactating mothers in Rivers State, Nigeria.

Methodology: A cross-sectional study design was used for this study among 428 lactating mothers aged 15 to ≥ 49 years attending postnatal clinics in Rivers State from January to June 2025. A multi-stage sampling procedure was used to select participants from the 3 senatorial districts of Rivers State (Rivers-East, Rivers-South-East, and Rivers-West) using a cluster sampling technique. Data were collected using a validated semi-structured interviewer-administered questionnaire. Frequency tables and charts were generated to describe knowledge, attitude and practice of exclusive breastfeeding, and logistic regression model was used to determine the factors associated with exclusive breastfeeding among lactating mothers at a 5% level of significance.

Results: The mean age of participants was 32.3 ± 2.7 years. Only about 27.7% of lactating mothers practiced exclusive breastfeeding, despite 70.5% having prior awareness, mainly from electronic media (53.2%). The majority (73.8%) correctly stated that exclusive breastfeeding should be initiated immediately after child's delivery and 87.5% believed exclusive breastfeeding should last less than six months. Pre-lacteal feeding was reported by 49.6%, and 40.5% introduced other foods within the first month. Exclusive breastfeeding practice was significantly associated with child's sex (aOR = 6.53; 95% CI = 5.18 – 12.08, P = 0.02), knowledge of child spacing benefits (aOR = 0.42; 95% CI = 0.25 – 0.49; P = 0.00), and awareness of cancer risk reduction (aOR = 12.37; 95% CI = 5.71 – 27.39; P = 0.04).

Conclusion and Recommendations: Findings highlight persistent knowledge gaps and socio-cultural influences undermining exclusive breastfeeding. Targeted counselling, strengthened baby-friendly initiatives, and workplace support are recommended to improve exclusive breastfeeding rate.

Keywords: Exclusive breastfeeding, Knowledge, Practice, Attitude, Nigeria

Knowledge, Attitude And Practice Of Malaria Prevention Among Pregnant Women Attending Antenatal Clinic In Ilishan- Remo, Ogun State

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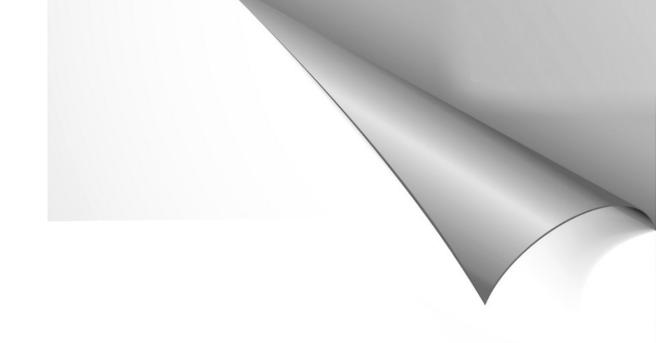
Background and Aim: Several studies have shown that malaria in pregnancy has killed a lot of pregnant women and their unborn children. Reduction of morbidity and mortality resulting from malaria in pregnancy largely depends on pregnant women's knowledge, attitudes, and practice about malaria prevention during pregnancy. This study sought to assess the knowledge, attitude and practice of malaria prevention among pregnant women attending antenatal clinic in IIishan Remo, Ogun State.

Methodology: A quantitative descriptive cross- sectional survey of 202 pregnant women between the ages of 15- 49 years were randomly selected from the three selected health centers namely, (100 Christ Apostolic Church Maternity, 62 IIishan Remo Community Health Center, 40 Babcock University Medical Center) and a structured validated questionnaires were administered to ascertain their knowledge, attitude and practice of malaria prevention during pregnancy. Data analysis was conducted, and results were presented in descriptive statistics using frequency tables and bar charts.

Results: Most participants (124(62%)) were aware that mosquito is the vector for malaria parasite. Respondents' level of education, occupation, and religion had a statistically significant association with mothers' knowledge, and attitude towards malaria prevention ($p \leq 0.05$). However, 30 (15%) had a misconception that malaria is caused by drinking contaminated water. The most commonly mentioned preventive measures of malaria prevention for pregnant women were attending focused antenatal clinic 176(88%), using mosquito repellent 140 (70%) and use of long lasting insecticide treated bed net 162 (81%). There is a statistically significant difference between the knowledge and practice (df =135, P=.285($p \leq 0.05$), between practice and attitude of pregnant women towards malaria prevention (df = 108, P=.057), and between the attitude and knowledge (df = 180, P=.378) of pregnant women towards malaria prevention in IIishan Remo, Ogun States.

Conclusion and Recommendations: The study revealed that pregnant women are putting their knowledge about malaria prevention into practice despite certain misconceptions. Artificial intelligence can be used to develop personalized health education materials that are tailored to the specific needs and cultural context of different communities thereby helping to increase awareness and uptake of malaria prevention strategies. Also, personalized recommendations using AI- powered systems can provide personalized reminders for medication adherence and preventive measures for pregnant women.

Keywords: knowledge, Attitude, Practice, Malaria, Pregnant women, IIishan- Remo, Ogun State.

Climate Change including Environmental Health

Knowledge and Perceived Health Effect of Indoor Air Pollution on the Respiratory Health of School-Age Children in Southern Senatorial District, Cross River State, Nigeria

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Background And Aim: According to the 2024 Global report, indoor air pollution is the second leading death risk factor among school-age children in 2021, after malnutrition. Air pollution is a significant threat to human health, particularly for children. These are caused by nature and man-made sources (including road traffic, residential heating and industrial activities). Over 700,000 deaths of children in Nigeria were linked to indoor air pollution in 2021. This study assessed the knowledge and perceived health effect of indoor air pollution on the respiratory health of school-age children aged (5-19) years in the Southern Senatorial District of Cross River State, Nigeria.

Methodology: A cross-sectional descriptive study design was used, with 320 school-age children as study participants. Households were selected through multistage sampling techniques across both Akpabuyo and Calabar Municipality Local Government Areas. Data were collected from April to May 2025 by trained research assistants using a semi-structured interviewer-administered questionnaire. The questionnaire consisted of four sections: socio-demographic characteristics of respondents, knowledge level of indoor air pollution, perceived health effects of indoor air pollution on respiratory health, and sources of indoor air pollution. Three hundred and six participants agreed to continue with the study and valid responses were analyzed using SPSS version 25.

Results: Majority, (88.9%) of the respondents were aware of indoor air pollution, (35.9%) demonstrated good knowledge of key contributors such as mold, poor ventilation, and chemical cleaning agents. More so, (69.9%) believed indoor air pollution had affected their child's respiratory health, with coughing (83.3%) and wheezing (31%) being the most reported symptoms. Common sources of indoor pollution included use of chemical-based cleaning agents (77.8%), gas (65.7%), presence of pets (46.4%), presence of mold/Mildew (46.1%), household smoking (30.1%), charcoal (14.7%) and kerosene (12.7%).

Conclusion And Recommendations: Our findings revealed that despite high awareness levels, knowledge of specific risk factors remains low, and exposure to household pollutants is widespread, indicating the need for targeted health education campaigns, promotion of cleaner household energy options, and policy interventions to reduce exposure risks and improve respiratory health outcomes among school-age children.

Keywords: Indoor air pollution, Respiratory health, School-age children

Assessment of Water, Sanitation, Hygiene (WASH) Facilities and Practices, and their Public Health Implications in Primary Schools in Aba South LGA, Abia State

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Background and Aim: Water, Sanitation, and Hygiene (WASH) are essential components of a safe and conducive learning environment, directly influencing pupils' health, school attendance, and academic performance. Inadequate WASH facilities in schools increase the risk of communicable diseases such as diarrhea, typhoid, and worm infestations, which can disrupt children's education. Despite global emphasis on WASH as part of the Sustainable Development Goals (SDGs), disparities in access to clean water, sanitation facilities, and hygiene education persist in many Nigerian schools. This study assessed the availability and condition of WASH facilities in selected primary schools in Aba South Local Government Area, Abia State, with the aim of identifying gaps and recommending solutions to improve school health outcomes.

Methodology: A cross-sectional descriptive study design was employed. Ten primary schools in Aba South LGA were purposively selected, and a total of 67 respondents (students and teachers) participated. A multi-stage sampling method was used to ensure representativeness. Data were collected using a structured checklist and questionnaire focusing on water supply, sanitation, hygiene practices, and sustainability challenges. Ethical approval was obtained, and informed consent was secured from participants. Data were analyzed using SPSS version 21.0 and presented in tables with simple percentages.

Results: Findings revealed significant disparities in WASH infrastructure across the surveyed schools. Boreholes and public taps were the most common water sources, but some were irregular or non-functional, leaving schools dependent on sachet water. Only 40% of schools had good WASH readiness, while 40% fell into the poor category, and 20% were classified as fair. Sanitation facilities were inadequate in several schools, with issues such as unclean toilets, lack of privacy, and absence of gender-specific facilities. Functional handwashing stations were available in just six schools. Hygiene practices and awareness were higher in schools with WASH clubs and committed teachers, with College Primary (90%) and Solution Ground (87%) showing the strongest compliance. Conversely, Divine Light and Old Court had poor hygiene practices and low awareness levels. Funding constraints, poor maintenance, and lack of policy enforcement were the major barriers to sustainable WASH implementation.

Conclusion and Recommendations: This study highlights the urgent need to address WASH inequalities in primary schools within Aba South. Schools with reliable water supply, adequate sanitation, and active hygiene education demonstrated better readiness and health outcomes, while poorly resourced schools faced persistent risks of disease and absenteeism. To achieve national and global WASH targets, strategic investment in reliable water systems, gender-sensitive sanitation facilities, and sustained hygiene education is crucial. Strengthening policy enforcement, ensuring community participation, and establishing maintenance frameworks are also key to sustainable improvements in WASH services in schools.

Keywords: WASH, Hand hygiene practices, Primary schools, Sanitation facilities, Public health implications

Digital Applications for Effective Waste Management and Job Creation in Nigeria

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Background And Aim: Nigeria is experiencing a dual crisis of poor waste management and high youth unemployment. With over 32 million tonnes of solid waste generated annually, much of it remains uncollected, dumped in waterways, or burned in open fields, leading to environmental degradation, public health risks, and lost economic value. Meanwhile, millions of young Nigerians remain unemployed despite the growing demand for innovative, sustainable jobs. This paper explores how digital applications, including mobile apps, smart tracking tools, and data-driven platforms can transform Nigeria's waste management system and simultaneously unlock job creation opportunities for youth. The aim is to highlight scalable, inclusive digital innovations that can modernize waste handling while supporting the economy and advancing environmental sustainability.

The Issue: Despite several policy attempts, Nigeria's waste sector remains fragmented, underfunded, and inefficient. Collection systems are irregular, waste sorting is rare, and reliable data is lacking. Environmental agencies face overlapping mandates, weak enforcement powers, and minimal public engagement. At the same time, informal waste workers, who manage most recyclable materials remain unrecognized and unsupported. While digital tools have shown promise in other sectors, their impact in waste management is limited by poor ICT infrastructure, digital illiteracy, low trust, and lack of funding. Successful waste-tech startups like Wecyclers and RecyclePoints demonstrate the potential for mobile platforms to reward recycling behavior, optimize logistics, and create income-generating opportunities. However, without stronger policy alignment, infrastructure, and inclusion strategies, these innovations cannot scale or reach their full potential.

Conclusion and Recommendations: Digital applications can be a game-changer for Nigeria's waste crisis, offering smarter, faster, and more transparent waste management systems. They also open doors for employment across the digital value chain, from app development to logistics, data analytics, and smart hardware installation. But technology alone is not enough. Without the right environment, policy, funding, education, and coordination, digital tools risk becoming isolated, or short-lived experiments. A truly sustainable and inclusive digital waste economy must be people-centered, data-driven, and context-aware, one that supports informal workers, engages communities, and ensures no one is left behind. Integrate digital innovation into the national waste management policy framework with clear benchmarks and implementation timelines. 2) Co-create digital waste platforms with local councils and recycling hubs to ensure sustainability. 3) Conduct field-based studies and user-testing for new digital waste applications. 4) Use social media, radio, and community platforms to inform the public about digital recycling apps and their benefits.

Keywords: Waste Management, Digital Applications, Circular Economy, Job Creation, Smart Technology

Assessing the Environmental and Health Implications of Poor Solid Waste Disposal Around Aluu/obiri Ikwerre Dump Sites in Port Harcourt, Rivers State

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ABSTRACT

Background: Inefficient disposal of solid waste presents serious risks to both health and the environment, especially in urban and nearby suburban areas. This research investigates the health and environmental consequences of inadequate waste management near the Aluu/Obiri Ikwerre landfill sites in Port Harcourt, Rivers State.

Methodology: Employing a descriptive cross-sectional approach with nonprobability sampling, data were gathered from 100 households located within a 250-meter radius of the dumpsite, as well as from 100 households situated 250 to 500 meters away, using self-administered questionnaires.

Results: The majority of participants were aged 26 to 45 years, which is considered the economically active age group. Most respondents were female (60. 4%), self-employed individuals (69. 8%), had completed secondary education (44. 7%), and had resided in the area for more than seven years (42. 1%). Household sizes varied, with 50. 3% of the population had between one and three children, and the average number of people in each household was five. A vast majority of those surveyed (92. 5%) felt that the location of the dumpsite affected their surrounding environment; 16. 3% indicated that it impacted their health, while 83% mentioned the unpleasant smell from the dumpsite as their primary worry, specifically those within 250meters. The negative effects on health linked to the dumpsite decreased with distance from it, although this finding was not statistically significant at a 95% probability level.

Conclusion/Recommendations: The open dump leads to issues such as air pollution, degradation of soil, and contamination of groundwater. This study highlights the critical necessity for effective waste management practices, stringent enforcement of environmental regulations, and initiatives to raise public awareness to address these harmful impacts. Poorly managed waste is known to negatively influence health, the environment, and the aesthetic quality of the area. We suggest that residents near the Aluu/Obiri Ikwerre Dumpsite be informed about alternative, sustainable waste management practices to facilitate the gradual closure of the dumpsite.

Keywords: Solid waste disposal; Waste management; Environmental pollution; Health risks; public health

Solid Waste Segregation As A Strategy for Improved Waste Management in Port Harcourt

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ABSTRACT

Background: The diverse composition of municipal solid waste complicates its management significantly. Waste segregation, essential for effective solid waste management, has yet to be embraced by Nigerian society. Failure to properly segregate waste can lead to diseases such as diarrhea, cholera, typhoid fever, and other gastrointestinal infections. When organic waste is not separated from other types of waste, it decomposes and attracts flies, rodents, and other vectors that transmit pathogens to humans. This research aimed to evaluate the effectiveness of solid waste segregation as a means to enhance waste management in Port Harcourt.

Methodology: A quasi-experimental design was utilized, and a multistage sampling method was employed to select 30 households. A self-administered questionnaire with a semi-structured format was utilized, consisting of demographic information, a 14-point knowledge scale, and a 14-point practice scale. The knowledge and practice results were classified into three categories: poor (≤4), fair (4-8), and good (above 8). Unlabeled jute sack bags were distributed to households for a week to gather solid waste. The waste collected was categorized and weighed before the intervention took place. Afterward, households received labeled, color-coded jute sack bags (Black for biodegradable and White for non-biodegradable waste), and training on how to use them was provided over 2 weeks. Following the initiative, the questionnaire was re-administered to the chosen respondents. Waste generated from households was gathered and weighed over a week following the Initiative on solid waste segregation. Non-degradable waste was sorted, analyzed, and its components were recorded and weighed. The collected data underwent analysis using descriptive statistics and a t-test with a significance level of p=0.05.

Results: The average age of the respondents was 28.6±2.6 years. The educational backgrounds of the respondents included non-formal education (23.3%), primary education (26.7%), secondary education (20.0%), and tertiary education (30.0%). Before the commencement of the initiative, the respondents recorded an average knowledge score of 2.7 (±0.2) and a practice score of 2.2 (±0.1).

Conclusion and Recommendations: The results of this initiative indicate that waste segregation at the source is a feasible and sustainable method for improving solid waste management in the country. These findings will enhance the planning, development, implementation, and assessment of solid waste management within the community, state, and Nigeria. It is strongly recommended that there be an increase in community-based public awareness initiatives, that the government provide bags as incentives to encourage source segregation of waste, and that buy-back recycling centers be established by the government.

Keywords: Solid Waste Segregation, Waste Management, Waste Reduction, Waste Sorting, Environmental Sustainability.

Health Systems and Capacity Development for Health

Hospital Management and Healthcare Administration:
Overview of Maternal Health (Antenatal and Postnatal Care) in Nigeria

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Background and Aim: The effective delivery of Health services all over the world depends on a well-coordinated and responsive health system. Nigeria currently has an estimated Maternal Mortality Ratio (MMR) of 1047 per 100,000 live births which is a far cry from the United Nations' Sustainable Development Goals (SDGs) target of less than 70 per 100,000 live births. Evidence suggests that low utilization of maternal health services by Nigerian women may be due to their perceptions of low quality of care in health facilities. The purpose of this paper is to present a synoptical view of maternal health care in the context of Health System Administration, which will contribute the perspective of women of childbearing age (WCA) to the discourse.

Methodology: This followed a narrative review design focused on antenatal and postnatal services for Women of Child-bearing Age (WCA) in the context of Hospital management and Health care administration in Nigeria. A comprehensive search of existing literature on the subject matter was conducted between April and June, 2025. Search databases included Google scholar, PubMed, Medline, UNICEF, WHO and World Bank databases while search terms included "Healthcare system in Nigeria, Health care administration, Maternal health care and Quality of Care". Papers and reports with content on the above terms, published from 2015 to 2025 were included in the review while studies that didn't meet the above criteria were excluded. The collated information was categorized into distinct themes and subsequently integrated to form innovative perspectives.

Results: Three main themes were identified, namely: "Nigerian Health care system and maternal Health", "Health system challenges in Nigeria" and "Quality of Care". The first category included health system reforms pertaining to maternal health, Leadership and Governance, Health care financing, health economics as well as Health marketing in Nigeria. The second category covered Health infrastructure, Human resource for health, Health management information Systems as well as Health insurance; while the final category included access to skilled care, Patient-centered care, safety and risk management as well as continuity of care. The review indicated that maternal Health care utilization in Nigeria is significantly influenced by a complex interplay of healthcare system factors, with evidence suggesting that the functionality and responsiveness of a country's health system can influence maternal health outcomes.

Conclusion and Recommendations: Adequate management and administration of maternal healthcare services demands a synergistic approach requiring intergovernmental coordination, strategic planning and accountability, investment in human resources and a quality-focused approach to healthcare delivery. Furthermore, a sustained political will and stakeholder collaboration will be crucial in building an equitable and resilient maternal health system in Nigeria.

Keywords: Health management, Maternal health care, Quality of Care, Maternal mortality Ratio.

Stress Management-Reduction Continuum Model for Healthcare Workers in Organisations: Evaluation Phase

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Background and Aim: The prevention and management of mental health among workers can yield better productivity. Different theories and models have been proposed for stress management and reduction; however, each comes with its strengths and limitations. This study described the evaluation of the developed Stress Management-Reduction Continuum (SMRC) Model for workers in healthcare organizations.

Methodology: This study was conducted in two phases. In the first phase, a desk review was conducted to identify existing models and theories. The search engines used were Google Scholar, Web of Science, and ResearchGate. Appraisal, critiquing, and model analysis were done. In the second phase, a guide for key informant interviews, a worker's voice survey, and an opinion poll on a sample of 345 key informants across the study area (healthcare organizations in Northern, Central, and Southern Senatorial Districts of Cross River State) were conducted. Audio recordings of the interviews were made, transcribed, coded, and analyzed using Dedoose software and Nvivo. The excerpts from the coding were synthesized and presented thematically. The first phase informed the emergence of the model while the second phase was to gather workers testimonies of the application of the model. Therefore, the evaluation was to determine the sustainability of the SMRC Model and identify gaps.

Results: The desk review identified nine theories and models directly addressing workers' stress as Task Shifting/Sharing Model, Micro-Learning Model, USAID – Financing Innovations for Nutrition (FINFI) Model, Workforce Indicator Staffing Needs Model, Utilization-Based HRH Planning Model, Facilities-Based HRH Planning Model, Needs-Based Planning Model, Performance-Based Financing Model (PBF), and Community Midwifery Model (CMM). The qualitative phase with thematic analysis showed that almost all the participants, 312 (90.4%), reported a lack of match in the task provided and ability to execute the task or a mismatch in resources provision, and tasks to be performed by workers. These were the themes identified and later used as constructs of the proposed model. Phase one helped in identification of limitations of the reviewed theories while phase two tested the applicability of the SMRC Model. The results from the desk review and the qualitative part led to the development of the SMRC Model which emphasizes 'task requirement and staff ability match' as well as 'staff ability and resources availability match' for stress reduction and management. That is, when staff ability and skills to address health issues does not match task requirement, there will be stress. Again, if resources do not match staff expectations and task requirement, there will be stress.

Conclusion and Recommendations: The evaluation showed that the model can be sustained if organisations adopt it in totality. It is therefore recommended that this model be applied in different work environments to further validate the constructs (task requirement and staff ability match as well as staff ability and resources provided match) of the SMRC Model in the management and reduction of work-related stress.

Keywords: Constructs validation, Stress management, Stress reduction, Resource availability, Workers' ability match, SMRC Model.

Patient Safety Culture and Associated Factors Among Health Care Workers of A Teaching Hospital in Nigeria

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Background and Aim: Good patient safety culture (PSC) among healthcare professionals has been associated with an overall improvement in patients' wellbeing and treatment outcomes. Previous studies on this subject focused on practices aimed at reducing adverse outcomes in the health care system. However, in the present study, we investigated the current status and associated factors of patient safety culture among healthcare workers at a teaching hospital in Nigeria, with a view to identifying key factors that promote safety-conscious work environment.

Methodology: A stratified sampling technique was employed to select 244 healthcare workers who have been working with the teaching hospital for one year or longer in Olabisi Onabanjo Teaching Hospital, Sagamu, Nigeria. The tool for data collection a validated standardized self-administered Hospital Survey on Patient Safety Culture questionnaires. Ten dimensions of patient safety culture, which are teamwork, staffing and work pace, organisational learning and continuous improvement, response to error, supervisor support for patient safety culture, communication about error, communication openness, reporting patient safety events, hospital management support for patient safety, and handoffs and information exchange, were measured. The descriptive statistics, and chi-square were done using the SPSS 25. The significant level was considered at $p<0.05$.

Results: In terms of socio-demographic and occupational profile of the participants, the majority of them are in the age group of <40 years, female (63.9%), nurses (44.5%), Medical (76.5%), years of experience group of <10 years (50.8), working more than 40 hours per week is 93.3%, number of events reported (none) is 59.7%, and fair patient safety rating is 45.4%. Furthermore, the patient safety ratings were excellent (6.3%), very good (18.5%), good (28.2%), fair (45.4%), and poor (1.7%). However, the median was used as a cut-off point to determine the level of 10 dimensions of patient safety culture (PSC) since the numerical data of the 10 dimensions of PSC were not normally distributed. All ten dimensions of PSC showed relatively low scores as follows: teamwork (62.6%), staffing and work pace (65.1%), organisational learning and continuous improvement (61.8%), response to error (90.3%), supervisor support for patient safety culture (66.0%), communication about error (88.7%), communication openness (68.9%), reporting patient safety events (60.1%), hospital management support for patient safety (51.7%), and handoffs and information exchange (62.2%). The Chi-square test showed significant associations were observed between the 10 dimensions of PSC and socio-demographic factors of gender ($p<0.05$), and occupational factors of job title, department ($p<0.05$). Significant associations were observed between 10 dimensions of PSC and frequency of recorded incidents, and patient safety ratings with $p<0.05$.

Conclusion and Recommendations: When implemented correctly, Artificial Intelligence (AI)-enabled decision support systems can enhance patient safety by improving the ten dimensions of the hospital survey on patient safety culture, which are essential for addressing low levels of patient safety culture and ultimately preventing poor patient outcomes among healthcare workers in Nigeria.

Keywords: Patient safety culture, Healthcare workers, Socio-demographic factors, Occupational factors, and Risk Management

Hospital Management and Healthcare Services Administration of Immunization: The Case of Tuberculosis

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Background and Aim: The effective administration of immunization services is critical to achieving public health goals, reducing vaccine-preventable diseases, and improving overall population health. This involves some intersection of hospital management and healthcare service administration in the context of immunization delivery. There is always need to enhance public health outcomes through effective immunization strategies and management practices. To provide an update on how hospital management and healthcare service administration influence the planning, coordination, and execution of immunization programmes. This is with a view to advance how immunization programmes could improve.

Methodology: This was narrative literature review study, using the SANRA framework. Two sources of data were published literatures and ministry of health documents in Nigeria. The focus of review was on hospital management (encompassing operational management, quality assurance, financial management, human resource management and strategic planning); healthcare services administration of immunization (including programme development, policy implementation, data management, community outreach and coordination of services. Qualitative analysis was by thematic review.

Results: On hospital management there is poor supply chain in the operational management. The quality assurance review identified adverse events and low programme effectiveness. On financial management, there is limited funding and resources. This further evidenced in lack of training in terms of human resource management, just as lack of material resources and regular updates for healthcare providers to drive compliance to policies and regulation are impacting strategic planning at hospital management level. On healthcare services administration, programme development is a determinant of vaccine hesitancy and lack of trust in vaccines that is leading to decreased vaccination rates. Policy implementation is factor for disparities in access to immunization services can result in unequal vaccination rates. There is issue of data management being inadequate data collection and reporting systems i.e. barrier to the tracking of vaccination coverage. Community outreach is impacted by misinformation or inarticulate health promotion facts, while lack of coordination between different levels of healthcare and public health initiatives can lead to fragmented services.

Conclusion/Recommendation: Several issues surrounding hospital management and healthcare services administration of immunization that can impact effectiveness and public health. Effective immunization programme could improve through regular training for healthcare stakeholders and adoption of best practices. These include but not limited to addressing vaccine hesitancy among patients; strengthening community outreach targeted to the underserved, and investing in immunization registries to track vaccination coverage. Artificial Intelligence (AI) has a potential not only in vaccine development, but also enhancing effectiveness and safety, and improving public trust. Therefore, the consideration for use of AI is recommended in promoting public awareness campaigns to educate the public about the benefit of vaccination and dispel myths; engagement in advocacy efforts to support policies that promote vaccination, and regularly evaluate immunization programmes for effectiveness.

Keywords: Hospital Management, Healthcare Services, Administration, Immunization

Hospital Management and Healthcare Service Administration of Ophthalmology in Nigeria

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Background: The leadership and overall management of hospitals, hospital networks, and/or health care systems is referred to as health systems management or health care systems management. The word is used globally to describe management at all levels according to the WHO. In a health facility, health systems management makes sure that certain goals are met, that departments function properly, that the right people are in the right jobs, that people understand their responsibilities, that resources are used effectively, and that all departments are working toward a common objective for growth and development.

Aim: This paper is an attempt to review the Nigerian Healthcare management systems, their challenges and impact on healthcare services.

The Issue: Most national health plans and health sector policies frequently overlook the private sector, despite it being a crucial part of service delivery. This is true even though most low- and medium-income countries rely heavily on the private sector to provide health care, especially for primary care services like family planning and basic medical care for ill children. To deliver eye care services linked to the promotion, protection, and enhancement of population eye health, Primary eye care (PEC) programs are integrated into the primary healthcare (PHC) structure. However, the oversight by most national health plans and health sector policies has encouraged unconventional practices such as the treatment of cataracts that involve dislocating the lens into the vitreous, known to cause blindness, but has accounted for half of all cataract surgeries.

Conclusion/Recommendation: Primary eye care (PEC) is an inclusive, participatory, and integrated approach to the eye health component of primary healthcare (PHC) that includes preventive, curative, rehabilitative, and promotional services. By integrating eye care services and hiring qualified eye care professionals, the PHC will improve accessibility, affordability, and availability of eye care services for the community at large, preventing preventable blindness and minimizing the severity of visual impairment. This will boost individual productivity and lessen the psychological burden on those who are blind or visually impaired and their dependents.

Keywords: Health Systems Management, Primary Eye Care (PEC), Primary Healthcare (PHC), Visual impairment

Assessment of activities of Community Health Workers in Disease Prevention in selected Facilities in Rivers State, Nigeria.

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Background and Aim: National programs for the prevention and control of non-communicable diseases (NCDs) in many low and middle-income countries increasingly emphasize community-based strategies. Community Health Workers (CHWs) play a vital role in these efforts by delivering preventive services directly to underserved populations. As public health systems evolve, digital tools, including artificial intelligence (AI), offer new opportunities to enhance the monitoring, evaluation, and optimization of CHWs-led interventions, especially in disease prevention. This study assessed the activities of community health workers in disease prevention in selected health facilities.

Methodology: A descriptive cross-sectional design was adopted. The study targeted 106 CHWs across two Local Government Areas in Rivers State. Port Harcourt [Rivers State University Teaching Hospital (10) and Pott Johnson Primary Health Care Center (23)], and Obio-Akpor [College of Health clinic (55), Rumuodomaya (4), Rumuigbo (5), Rumueme (7), and Rumuolumeni (2) model Primary Health Care Centers]. Ethical clearance was obtained from the RSUTH Ethics Committee (RSUTH/REC/2025/697). Given the relatively small population size, all CHWs in the selected health facilities were recruited for the study. Data were obtained using a structured questionnaire and analyzed using descriptive statistics, Chi-Square, and Spearman's Correlation.

Results: Findings revealed that CHWs actively participate in disease-prevention activities, including health education and promotion, immunization campaigns, sanitation and hygiene promotion, disease screening and early detection, etc. Some are also involved in distributing preventive materials, referring to and following up with patients, and supporting anti-retroviral therapy among people living with HIV. Key factors influencing CHWs' performance included community engagement, resource availability, incentives, training and professional development, collaboration with institutions, and access to transportation and logistics. The Chi-Square test revealed a statistically significant association between CHWs' performance and these influencing factors. Major challenges identified include inadequate resources, limited training, poor community engagement, logistics barriers, and insufficient supervision. These factors hinder CHWs' performance. Furthermore, Spearman's correlation indicated a statistically significant (p < 0.05) but weak positive relationship between CHWs' activities and the factors that influence their performance. This suggests that while improvement of the factors is associated with better CHWs' performances, other variables are likely to contribute.

Conclusion and Recommendation: CHWs remain central to Nigeria's disease prevention strategies, particularly at the grassroots level, bridging critical gaps between underserved populations and formal healthcare systems. As health systems modernize, integrating supportive technologies such as artificial intelligence can further strengthen CHWs' performance through improved data use, monitoring, and community engagement. AI-powered voice assistants in our Nigerian local Languages could be deployed to gather community feedback on CHWs' performance in real-time, particularly useful in areas with low literacy but high mobile phone penetration.

Keywords: Community Health Workers, Disease Prevention and Control, Non-Communicable Diseases, Community engagement.

Hospital Management and Healthcare Services in Blood Banking:
A Theoretical Synthesis

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Background and Aim: Blood banking is an essential component of modern healthcare systems, playing a critical role in surgical procedures, trauma care, chronic illness management, and obstetrics. Efficient hospital management and healthcare service integration are crucial to ensure safe, timely, and adequate blood supply. This paper presents a comprehensive theoretical framework for understanding the intersection of hospital management and healthcare services within the domain of blood banking.
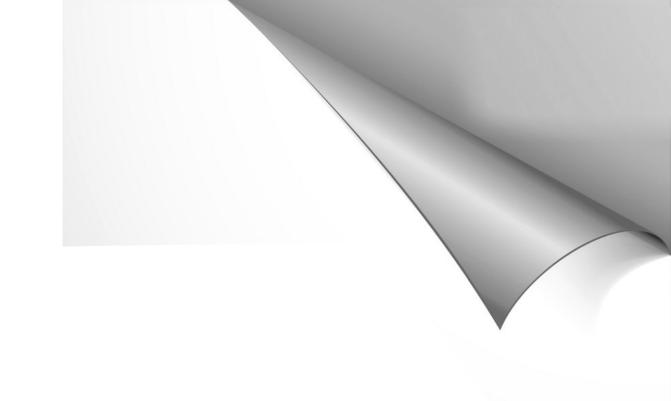
Methodology: Drawing upon established models such as the Donabedian Model, Technology-Organization-Environment (TOE) framework and Patient Blood Management (PBM), the study explores strategies for optimizing blood bank operations. It further delves into challenges, technological integration, and policy implications. The study adopts a theoretical review and synthesis approach, integrating literature across healthcare management, transfusion medicine, and health policy. The framework highlights the importance of risk management, patient-centered care, ethics, and information technology integration for improving global transfusion services.

Results: The review highlights that effective blood banking depends on three interdependent factors: quality of care structures and processes, technology adoption and organizational readiness, and patient-centered transfusion practices. Hospitals with strong governance, trained staff, and integrated financial and risk management demonstrate improved blood safety and availability. Information technology (IT) solutions and PBM strategies enhance outcomes, but adoption remains limited in **Low- and Middle-Income Countries (**LMICs) due to financial and infrastructural barriers.

Conclusion and Recommendations: A well-structured theoretical framework integrating hospital management and healthcare services can significantly enhance blood banking operations. Models such as the Donabedian Model, TOE framework, and PBM offer comprehensive tools for assessing and improving performance. Addressing challenges through policy, innovation, and capacity building is essential for the future of transfusion medicine. Future advancements in AI (artificial intelligence), personalized transfusion, and global collaboration will be pivotal in strengthening blood systems worldwide.

Keywords: Blood Banking, Hospital Management, Donabedian Model, Technology-Organization-Environment (TOE) Framework, Patient Blood Management (PBM), Transfusion Medicine,

Infectious Diseases

A Medicinal Plant *Cassia occidentalis* Against Bacterial Infections: A Reflection

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Background and Aim: This review focuses on a medicinal plant used to treat typhoid fever and other diseases. In the field of medicine, medicinal plants are essential because they offer natural compounds that can be used to treat a wide range of diseases, including ones that are resistant to conventional drugs. *Cassia occidentalis* is considered an "edible weed of agriculture" or famine food. Member of the caesalpiniacea family, specifically the caesalpinioideae subfamily, *Cassia occidentalis* is also known as "ewe ori esi" in Yoruba and coffee Senna in English, and Sanga sanga or Rai dore in Hausa.

Issue: Typhoid fever continues to be a major public health concern, especially in low-income areas where access to clean water and poor sanitation contribute to widespread morbidity and mortality. Traditionally, the leaves of *Cassia occidentalis* are used to treat edema, gonorrhea, typhoid fevers, and urinary tract infections. The roots are used to treat liver complaints, anemia, tuberculosis, menstrual issues, and general weakness and illness. They are also used as diuretic, febrifuge, and tonic. In Ayurveda, extract from *C. occidentalis* is used to treat eye inflammations. For asthma, the seeds are brewed into a coffee-like beverage, and for bronchitis, a flower infusion is used. *C. occidentalis* (0.5 mg/5 mL), a new indigenous metabolic corrective for newborns and infants, is also a component of "Bonnisan," which helps provide instant relief from the discomfort brought on by gastric wind.

Conclusions and Recommendations: It was found that *C. occidentalis* has antibacterial activities against some specific organism. More research on the physicochemical, nutritional, and efficacious qualities of plant medications suggested as part of an effort to reduce the disease burden on the human population.

Keywords: *Cassia occidentalis*, typhoid fever, medicinal plant, treatment

Hepatitis B Vaccine Uptake and Associated Factors Among Pregnant Women Attending Primary Health Care Facilities in Obio-Akpor Local Government Area, Rivers State, Nigeria

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Background and Aim: Despite the proven efficacy of the Hepatitis B vaccine (HBV) in preventing Hepatitis B Virus infection, vaccination rates among pregnant women remain alarmingly low in many regions. In Nigeria, uptake is hindered by several preventable factors, including misconceptions, fear of side effects, and inadequate access to services. With the growing role of digital health innovations, Artificial Intelligence (AI) offers opportunities to improve vaccination coverage by enabling data-driven outreach, personalized health education, **Dose Tracking, and Reminders**, where AI-integrated health systems can track each woman's vaccination progress and send timely SMS reminders for second and third doses, and **Predictive Modelling**, where it can be used to predict which women are least likely to complete vaccination, allowing for early, targeted interventions. This study assessed the uptake of the Hepatitis B vaccine and the factors associated with it among pregnant women attending antenatal care at primary health care facilities in Obio-Akpor Local Government Area, Rivers State, Nigeria.

Methodology: A cross-sectional study was conducted, a total of 352 pregnant women were recruited from eight primary healthcare facilities from August to September 2024, and data were collected from them using an interviewer-administered questionnaire. Ethical clearance was obtained from the Faculty of Basic Medical Sciences with approval number RSU/FBMS/REC/24/081. A chi-square test was used to test associations between respondents' characteristics and vaccine uptake, and a binary logistic regression model was fitted to identify the determinants of HBV uptake.

Result: The prevalence of HBV was 24.1%. Women aged 30-36 years have the highest prevalence, 41.5%, while pregnant women in the first trimester have the lowest prevalence, 2.8% (95% CI = 1.08 – 4.53). Major reasons for not taking the HBV vaccine included fear of side effects (24.4%), reluctance (18.7%), fear of injection (18.4%), vaccine inaccessibility (13%), and cost (11.6%). HBV vaccine uptake was significantly affected by age, educational level, and gestational age, among others. Pregnant women who were 30-36 years (OR= 23.879) and those who had a tertiary education (OR= 10.932) were more likely to take up the HBV vaccine, and less likely for those in the second (OR= 0.340) and third trimester (OR= 0.122).

Conclusion and Recommendation: The findings revealed inadequate Hepatitis B vaccination coverage among pregnant women, with full vaccination rates remaining exceptionally low, and identified key socio-demographic and behavioural factors influencing uptake. Integrating free Hepatitis B vaccination with mandatory provider counselling into routine antenatal care, while leveraging AI-enabled tools for personalized health education, dose reminders, and predictive identification of women at risk of incomplete vaccination, could help close the critical coverage gap and improve maternal and child health outcomes.

Keywords: Hepatitis B Vaccine, Pregnant Women, Vaccine Uptake, Primary Healthcare, Nigeria

Knowledge, Attitude, and Perception of Hepatitis-B Vaccine among Pregnant Women Attending Primary Health Facilities in Obio-Akpor Local Government Area, Rivers State

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Background and Aim: Pregnant women are at high risk of mother-to-child transmission, and a lack of education about the knowledge of the Hepatitis B vaccine (HBV), especially in developing countries like Nigeria, contributes to an increase in cases. With the growing use of digital health solutions, Artificial Intelligence (AI) offers new opportunities to enhance public health research and interventions, such as improving survey design, tailoring health education to local contexts, **Real-Time Monitoring,** tracking HBV vaccination uptake trends among pregnant women and flag drops in coverage, and predictive modelling to model which socio-demographic groups are most at risk for low knowledge, attitude and perception (KAP), helping target interventions more precisely. The study assessed the knowledge, attitude, and perception (KAP) of the Hepatitis B vaccine among pregnant women attending primary health care facilities in Obio/Akpor Local Government Area, Rivers State, Nigeria.

Methodology: A cross-sectional survey was conducted, 352 pregnant women were recruited from eight primary health care facilities, between August and September 2024, and data were collected using a semi-structured interviewer-administered questionnaire and analysed using descriptive statistics and analysis of variance (ANOVA) test. The facilities were randomly selected, and the respondents were selected using systematic sampling techniques. Ethical clearance was obtained from the Rivers State Primary Healthcare Board and the Faculty of Basic Medical Sciences with approval number RSU/FBMS/REC/24/081.

Results: The distribution of the respondents revealed a diverse educational background. While a significant proportion had no formal education (34.9%), most of the respondents (76.1%) had moderate knowledge, less than half (48.0% and 48.6%) had a moderate attitude and perception, respectively. Only 21.6% and 15.9% had a high attitude and perception, respectively. The major source of information for the vaccine was the health staff (61.4%), followed by social media (19.9%) and town announcers (16%). All the socio-demographic characteristics were significantly associated with KAP of HBV (p-value < 0.05), except marital status, educational level, and occupational status, which were not significantly associated with perception towards HBV.

Conclusion and Recommendations: Health education and promotion programmes should be strengthened to improve the knowledge, attitude, and perception of the Hepatitis B vaccine among pregnant women. Integrating HBV awareness into routine antenatal care (ANC) services, while exploring the use of Artificial Intelligence (AI) tools for personalized education, timely reminders, and data-driven outreach, could enhance uptake and contribute to better maternal and child health outcomes.

Keywords: Knowledge, Attitude, Perception, Hepatitis-B vaccination

Skin and Nasal Colonization of Pigs by Multidrug Resistant Bacterial Species in Abakaliki, Southeastern Nigeria: Implications for Public Health

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ABSTRACT

Background and Objectives: Livestock, particularly pigs, have increasingly been recognized as important reservoirs for zoonotic transmission of pathogenic bacteria. Most times in developing countries like Nigeria, there is a close association between humans and these animals which promotes the emergence and transmission of resistant and potentially virulent bacteria. This research focused on the colonization of multidrug resistant bacterial species in pigs bred in Abakaliki, Eastern Nigeria.

Methods: A total of 30 samples (20-skin and 10-nares) were collected from pigs using sterile cotton swabs. The morphological and biochemical characteristics of the bacterial species isolated from the skin and nasal samples of the pigs were examined. Methicillin-resistant *Staphylococcus aureus* (MRSA) detection and antibiotic susceptibility testing were done using cefoxitin (30µg) and seven different antibiotics respectively for bacterial isolates using Kirby-Bauer disc diffusion method.

Results: The results showed *Staphylococcus aureus* species 26(29.89%) had the highest percentage frequency of occurrence, then *Escherichia coli* 21(24.14%), *Salmonella* species 21(24.14%), *Klebsiella* species 12(13.79%) and *Shigella* species 11(12.64%), giving a total of 91 bacterial isolates. Further analysis of randomly selected *S. aureus* isolates showed MRSA (100%). Bacterial isolates were highly resistant to linezolid (100.00%), amoxicillin-clavulanic (97.78%) azithromycin (93.89%) and ceftriaxone (85.16%), imipenem (70.00%), and amikacin (68.73%). Moderate susceptibilities were observed for levofloxacin (54.27%), amikacin (31.27%) and imipenem (30.00%). Cumulative average MARI of the isolates was 0.71 with MARI values ≥ 0.2.

Conclusion and Recommendations: Most commonly used antibiotics such as linezolid, amoxicillin-clavulanic acid and ceftriaxone may no longer be effective to cure infections especially in the study population. Veterinarians need to be prudent in the use of antimicrobials combined with good hygiene protocols as primary methods for controlling the spread of these resistant bacterial pathogens with obvious potential public health consequences on both animals and humans. Furthermore, artificial intelligence (AI) holds significant potential in managing bacterial infections by transforming diagnosis through rapid pathogen identification and antibiotic susceptibility testing, thereby facilitating personalized treatment strategies.

Keywords: Colonization, Multidrug Resistant, Bacterial, Skin, Nasal

Awareness, Knowledge, and Usage of Pre-Exposure Prophylaxis (PrEP) among Youths in Ikom Local Government Area, Cross River State, Nigeria

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Background and Aim: Nigeria ranks third globally in HIV burden, with youths at significant risk. This study aimed to evaluate awareness, knowledge, and usage of Pre-Exposure Prophylaxis (PrEP) among youths in Ikom Local Government Area, Cross River State, Nigeria.

Methodology: A cross-sectional design was adopted, involving 404 respondents selected through multistage sampling. Participants selected were youths between the ages of 15 o 30 years. Data were gathered using an interviewer-administered questionnaire and analyzed using SPSS Version 23 and Microsoft Excel.

Results: More than half (52.5%) of the respondents were male, and 68.39% had attained tertiary education. 206(51.1%) of respondents were aged 15-20 years. The mean and standard deviation of the age were 20.32+2.520. However, out of 404 respondents, 339(83.9%) demonstrated poor awareness, and only 65 (16.1%) respondents were aware of PrEP, out of which 60 (92.3%) had an understanding of PrEP as a preventive measure for HIV-negative individuals. Uptake of PrEP was low, with 60.0% of the respondents showing low uptake. Key factors influencing uptake included the availability of medication (76.9%) and concerns about side effects (80.0%). A chi-square analysis revealed a significant association between educational level and knowledge of PrEP (22 = 11.110, $p<0.004$), suggesting that higher education levels correlate with better understanding of these preventive measures.

Conclusion and Recommendations: The findings emphasize the need for widespread education on PrEP to improve awareness and uptake among Nigerian youths, particularly across all educational levels. This is especially important in Nigeria, where the burden of HIV infection remains high, particularly among young people, who continue to account for a significant portion of new infections. Enhanced education and healthcare accessibility will be essential in achieving further reductions in HIV transmission.

Keywords: Awareness, Knowledge, Uptake, PrEP, HIV infection

Awareness, Knowledge, and Preventive Practices of Halitosis among Undergraduates in the University of Calabar

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Background and Aim: Halitosis or oral malodour is defined as an unpleasant breath odour. It can become a serious problem affecting individuals' social communication and self-confidence. Furthermore, it is a discomforting issue for the people around the person affected, because they consider it embarrassing to inform the person of the problem. This study was designed to investigate the awareness, knowledge, and preventive practices of halitosis among undergraduates in the University of Calabar.

Methodology: A descriptive cross-sectional survey design was adopted using a semi-structured questionnaire to elicit information. A multi-stage sampling technique was used to sample 420 undergraduate students. Data collected were analyzed using IBM Statistical Product for Service Solution version 20 (SPSS version 20).

Results: The majority of the respondents, 80.7% have heard of halitosis, 65% knew that rinsing the mouth after eating prevents halitosis. About (305)72.6% of the students had good knowledge concerning halitosis, while 285(67.9%) had high preventive practices.

Conclusion and Recommendations: There is a positive indicator of the potential for proactive halitosis management among this population. Educational institutions and healthcare providers should consider integrating comprehensive oral health awareness programs that not only inform but also empower undergraduates to adopt preventive practices. By doing so, we can mitigate the impact of halitosis on individuals' self-confidence and social interactions, ultimately fostering a healthier and more confident university community.

Keywords: Knowledge, Awareness, Preventive practices, Halitosis, Undergraduate.
Word count: 219

Mental Health Issue

Prevalence of Crime in Rural Community of Bokkos Local Government Area, Plateau State, Nigeria

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Background and Aim: Crime hampers development and remains a major concern in rural communities, particularly among adolescents. This study investigated the prevalence, causes, and prevention of adolescent crime in Bokkos Local Government Area, Plateau State, Nigeria.

Methodology: A cross-sectional survey was conducted among 150 adolescents selected through stratified random sampling. Data were collected using a structured questionnaire measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) and analysed with descriptive statistics (frequencies, percentages, means, and standard deviations) in SPSS version 26.

Results: Our results showed that theft and burglary were the most prevalent crimes, with 71.3% of respondents agreeing or strongly agreeing (M = 4.20, SD = 1.32). Adolescent involvement in rural crime was also perceived to have increased over the past year, with 60.0% agreement (M = 3.93, SD = 1.38). Drug abuse (56.0% agreement; M = 3.67, SD = 1.44) and peer pressure (54.7%; M = 3.60, SD = 1.67) were also recognized as major contributors, whereas adolescent violence was not widely considered a problem, as 76.6% disagreed or strongly disagreed (M = 1.93, SD = 1.08). Poverty (62.7% agreement; M = 3.83, SD = 1.35), family instability (58.0%; M = 3.67, SD = 1.48), and unemployment (52.7%; M = 3.43, SD = 1.57) were regarded as the primary drivers of crime. Among prevention strategies, community policing (68.7% agreement; M = 3.94, SD = 1.13) and school-based awareness programs (66.0%; M = 3.91, SD = 1.12) were rated most effective, while NGO involvement was rated least effective, with 65.3% disagreement (M = 2.07, SD = 1.18).

Conclusion and Recommendations: Adolescent crime in Bokkos is shaped primarily by economic hardship, family instability, and unemployment. The study recommends the need for comprehensive interventions that address these structural issues, while strengthening community-based prevention will be critical for reducing rural delinquency.

Keywords: Adolescents, Crime, Prevention Mechanisms, Rural, Nigeria

Resilience and Enablers Among Undergraduate Health Profession Students: A Narrative Review

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Background and aim: Stress related to academics is prevalent particularly among health profession students due to high academic workload, navigating classroom and clinical learning, contact with pain, suffering and death and series of examinations. These experiences can be overwhelming with resultant negative effect on physical and mental wellbeing. This makes resilience an essential trait for success, prevention of attrition and production of competent health workforce to render quality care. This study undertook a narrative review of resilience and enablers among undergraduate health profession students. Specifically, the study reviewed the concept of resilience, level of resilience among undergraduate health profession students, enablers of resilience and role of health profession educators in promoting resilience. Exploring enablers of resilience, role of educators and implementation will prevent attrition and promote the production of thriving, well-rounded graduates equipped to navigate future workplace challenges as health professionals.

Methodology: The design adopted for this study was the narrative review. Electronic search of qualitative, quantitative and reviewed articles was done using search engines such as google scholar, semantic scholar and google. Initial literature search yielded 55 researches. At the initial search, three authors assessed the abstracts for relevance to the research topic using the inclusion criteria of; relevance to topic under review, population of study must be any undergraduate health profession students, year of publication within 2015-2025. Studies on practicing professionals were excluded. Thirty-three (33) studies including two studies from Nigeria contributed to the final review. All authors reviewed, discussed and refined the final research. Data with similar contexts were discussed together. Quantitative data and statements were presented for quantitative studies while narratives data were used for qualitative researches.

Results: All the studies reviewed addressed different aspects of the study objectives. Evidence from eight of the studies showed that health profession students generally demonstrated various levels of resilience. Five studies identified age as a major enabler of resilience. Reports on the influence of gender and year of study in fostering resilience differ in the studies reviewed. However, one study revealed that female medical student displayed more resilience than males. Major enablers of resilience included religiosity, social support, role modelling, mentoring, mindfulness, engaging in recreation activities and self-efficacy. Health profession educators' roles included; integration of resilience education in curriculum, provision of friendly learning environment, assessment mapping and blue printing, familiarizing students with assessment modules and format.

Conclusion and Recommendations: Health profession students demonstrated different levels of resilience to navigate stress. Students build resilience through social support, recreation activities, mentorship, religiosity, role modelling and mindfulness. Health educators' roles included integration of resilience education in curriculum and provision of a friendly learning environment. Based on these findings, it was recommended that, school schedule should make provision for recreation activities; the health profession educators should embed resilience education in the curriculum; provide a friendly learning environment, provide mentorship and support, provide assessment blueprints and familiarize students with assessment modules and format to reduce anxiety and foster resilience. Further studies are suggested to explore barriers to resilience among health profession students in Nigeria.

Keywords: Building resilience, Enablers, Facilitating factors, Health profession students, Resilience, Role of educators in fostering resilience.

TikTok Therapy: The Rise of Mental Health Content Creator and their Influence on Nigerian Youth Coping Mechanisms

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Background and Aim: TikTok is no longer just for entertainment; many young people now use it to find support and advice on mental health. With more creators sharing personal stories and tips, there i   s rising interest in how this content shapes the way youth understand mental health and handle challenges. This review explores TikTok's impact on mental health awareness and coping strategies among young adults in Nigeria.

Methodology: This review adopted two main themes for data extraction using the content analysis method: (1) the type of mental health content being shared under hashtags like #mentalhealth on TikTok, (2) the level of user engagement on a post. Data were also gathered from search engines like Google Scholar and databases, including PubMed. Inclusion criteria were papers published between 2020 and 2024, written in English Language, and conducted in Nigeria. A total of 15 papers were retrieved, and 8 met the inclusion criteria. These papers were analyzed using Zotero to extract key insights
.

Results: Findings revealed that TikTok creators are using the platform to share relatable stories, self-care tips, and educational videos. Many young users actively engage with this content through likes, comments, and shares, which shows that these messages resonate with readers. But there are some challenges, such as the spread of misinformation, lack of professional oversight, and minimal participation from health organizations in curating or verifying content.

Conclusion and Recommendations: TikTok could be a helpful and informal way for young people to learn about and care for their mental health. However, there is a need for stronger collaboration between content creators, mental health experts, and researchers. Doing so will help improve the quality of content and make the platform a safer space for youth to learn about and manage their mental health

Keywords: TikTok, Mental health, Adolescents, Coping strategies, Content creators, Nigeria.

Comparative Study of Back Pain among Taxi and Truck Drivers in Portharcourt

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Background and Aim: Back pain is of variable intensity. Drivers who people depend on for the mobility of their goods and services have high prevalence of back pain s, because their bodies are subject to acceleration and deceleration, swaying from side to side, work related injuries and whole-body variation. The primary objectives are to determine the prevalence of back pain and the factors responsible for this occurrence among truck and taxi drivers.
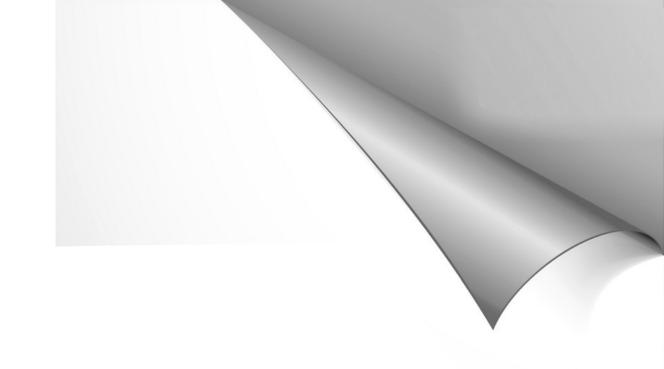
Methodology: This is a comparative descriptive study. Sample size was calculated using formulae for comparism of two proportions. Participants were chosen using multiple staged sampling methods. Data was collected using structured interview administered questionnaire. Data analysis was analyzed using Microsoft excel SPSS version 20. Descriptive statistic of mean, standards deviation, frequency and chi square were used to summarize this data.

Results: A total of 386 drivers (193 taxi drivers and 193 truck drivers) were administered with questionnaires. However, 4 taxi and 4 truck drivers had incomplete data, hence 189 questionnaires were complete for each of the groups. Taxi drivers mean age is 34.8, while that of truck drivers is 43.5 There was significant difference of between the 2 groups. Location of back pain was seen more at the lower back with 82.9 % in truck drivers and 73.5 % in taxi drivers. Frequency of the back pain is located more monthly in truck drivers (43.2%) to taxi drivers (38.8%). Number of days working is more on the $5^{th} – 6^{th}$ day with taxi drivers (51.3 %) working more than truck drivers (7.9%). The shock absorbers were better in the taxi drivers (71.4%) than truck drivers (57.1%). Vehicle vibrations was in the taxi (70.5%) than truck driving (69.3%). Shock absorbers is seen more with truck absorbers (14.3%) than the taxi drivers (9.0%). Hypertension was seen more in taxi drivers (10.5%) than truck drivers (5.2%). Diabetes was also seen more in taxi drivers (13.5%) than truck drivers (5.9%).

Conclusions and Recommendations: The prevalence rate of back pain is higher among truck drivers than taxi drivers. This is due to age, shock absorbers, sitting upright. Age is associated with pain, because of long time stress. Most truck drivers had good shock absorbers; hence confounders may have caused the back pain. Duration of the driving, underlying illnesses e.g. hypertension, diabetes had no association with back pain. These call for aggressive strategies to reduce back pain among 2 groups of drivers.

Keywords: Taxi drivers, Truck drivers, Back pain, Port Harcourt.

Non-Communicable Diseases

Qualitative Assessment of the Level of Care and Efficacy at Sickle Cell clinics in Delta State

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Background and Aim: Sickle cell disease is a significant public health concern in Nigeria particularly in   Delta State. The State has established 24 sickle cell clinics to provide comprehensive care to patients. This research is to qualitatively assess the level of care and management of sickle cell patients at SCD clinics in Delta State.

Methodology: The experiences of sickle cell disease (SCD) patients were captured with exploratory qualitative study using purposive sampling to recruit 60 teenagers (males and females) among 100 from the three senatorial districts of Delta State. The research team conducted and audio-recorded in-depth interviews using a semi-structured guide between September 2024 and February 2025. Assessment of the level of care and efficacy considered the verbal data & field notes taken to capture non-verbal cues & physical expressions on the subject matter. The feed-back recordings were transcribed verbatim, patients' narrative was examined after reading thoroughly to understand their perceptions and analyzed using content analysis identifying patterns and themes. Thematic saturation was reached when no new themes or patterns emerged from the data and perceptions was systematically coded, categorized, and used to identify key themes and patterns relevant to the research questions. Validation of the qualitative tool was conducted using a content validity (expert and literature review) to cover all concepts measured here.

Results: A total of 60 SCD patients were recruited. The patients were aged 13-18 years (teenagers) Males 47%, females 53% and students (91.7%). All were Christians. 80% were single, and 10% had children and separated from their partners. Content analysis of qualitative data which described the perceptions of SCD patients in the sickle cell clinics identified   7 themes extracted from 38 selected codes which were classified in 16 categories. The 7 themes were healthcare system inefficiencies, provider-patient relationships, social support needs, patient-centered care challenges, healthcare disparities, treatment options, and economic impact on patients. Few examples of theme quotations recorded from patients include *"Government should reduce the delay where you even have to wait for your case notes," "When the doctors arrive you find that they are not really grounded on SS treatment" "The insurance scheme doesn't cover all drugs I need" "Every time it's a battle' "they should build clinics close to our communities". "Go get somebody in the family to donate blood" "at times I am abandoned if I don't have money to pay for treatment"*

Conclusion and Recommendations: The findings from this study advances patients' satisfaction & healthcare organization services. Educational technology could enhance development of strategies to enhance health care delivery for SCD patients in Delta State, Nigeria and other healthcare institutions.

Keywords: Sickle cell disease, Evaluation, Health care delivery, Efficient, Clinics.

Prevalence and Factors Associated with Hypertension among Commercial Drivers in Benin City, Edo State, Nigeria

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Background and Aim: Hypertension is a leading cause of death; and affecting over 1 billion people. It is often asymptomatic prior to its diagnosis, or becomes symptomatic due to heart and brain diseases. Yet, while <45% of population may possess good knowledge of the disease (Anyanti et al., 2021), the prevalence could be up to 38% in certain populations '(Fajola et al., 2024). The aim of this study was to determine the prevalence and factors associated with hypertension among commercial drivers in Benin metropolis.

Methodology: This study was a cross-sectional survey of 341 drivers of commercial motor-vehicle aged 20 - 70 years with mean age of 48.09 years ± 11.21 standard deviation in Benin City using random sampling technique. Socio-demographic data was obtained using self-administered Questionnaire, blood pressure (BP) parameters were obtained using YASEE JN-163B Digital BP device. Blood pressure values of $\leq$ 140/90 mmHg were considered normal, while values > 140 mmHg and > 90 mmHg were considered systolic and diastolic hypertension respectively. Data were analysed using IBM-SPSS version 29.0, and Chi-square test was used to determine significant differences between blood pressure and associated factors.

Results: Most of the participants were males (95.6%). The prevalence of Diastolic and Systolic blood pressure was 41.9% and 41.1% respectively. The mean systolic and diastolic BP were 140.72 mmHg and 89.98 mmHg respectively. Age and years of driving were significantly associated with Diastolic and Systolic BP (P< 0.05). Furthermore, the number of road traffic accidents in the previous year (2023) was significantly associated with Systolic BP (P< 0.05).

Conclusion and Recommendations: The high prevalence of both systolic and diastolic BP in this study could pose a serious threat to safe driving. We, therefore, recommend that Edo State Government should formulate health monitoring policy and set up a taskforce to ensure that commercial drivers have medical records that report their BP status. They should deploy AI-Powered automated BP screening tools to primary healthcare facilities to prioritize high-risk individuals for follow-up.

Keywords: Diastolic, Driver, Hypertension, Systolic, Blood Pressure

The Potential of Management of Type 2 Diabetes and Hypertension in Ogun State Hospitals Using Artificial Intelligence

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Background and Aim: Hypertension and Type 2 Diabetes are some of the most common non-communicable diseases (NCDs) of Public Health concern. The objectives of the study were to assess the prevalence of diabetes and hypertension in three (3) hospitals in Abeokuta South Local Government Area during the duration of the study, and suggest possible methods of identifying, prevention and management. The prevalence of hypertension in Ogun State stands at an estimated 33.1- 40.9 % and figures for Nigeria is 29-38.1%, while that of diabetes is an estimated 5% in Ogun State and 0.8-11% across Nigeria.

Methodology: This cross-sectional study involved 390 respondents selected using a three-stage sampling method. Stage 1 -selection of three Diabetes and Hypertension clinics from Abeokuta South LGA. Stage 2- selection of out-patients attending clinics in the three hospitals randomly. Stage three - selection of diabetic and hypertensive patients randomly from three different hospitals in Ogun State; FMC, Sacred Heart Hospital and General Hospital Ijaiye. Blood Pressure (BP) and Fasting Blood Glucose (FBG) and Glycosylated Hemoglobin (HbA1c) tests using standard medical laboratory protocol. Analysis for blood pressure, fasting blood sugar, and suggestions on modern methods employable in managing both conditions.

Results: Analysis of Variance, Pearson's Correlation, and Chi Square were used to compare relationship between both variables at $P<0.05$, analysis were represented in frequency, mean, median, inter-quartile range, standard deviation and percentages. Majority, females (69.92%) had a mean FBG and HbA1c of 131.61 ± 56.78 and 10.02 ± 3.34. Mean BP higher in male respondents 132/81 mmHg ±0.29; while females 126/79 mmHg ±0.24; mean FBG levels were higher in female respondents at 71.0% and 29.0% males.

Conclusion and Recommendation: This study results shows Type II Diabetes Mellitus and Hypertension which may occur simultaneously remain a public health challenge, while there are ongoing efforts to manage both diseases, AI, an alternative tool can be used in preventing, combating and managing NCDs through precision treatment, AI algorithms, monitoring adherence to treatment options, optimizing resource allocation for screening diagnosis as well as online registries and support groups. Nigeria should invest in research on recent AI innovations and technologies for effective management, prevention, and control of NCDs. Likewise, factors like lifestyle changes, diet diversity using AI tools like Applications can be used to enhance tracking and management of both NCDs.

Key Words: Diabetes, Hypertension, Management, Artificial Intelligence

Prevalence and Driving-Related Factors Associated with Prediabetes and Diabetes among Commercial Drivers in Benin City, Edo State, Nigeria

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Background and Aim of Study: Type 2 diabetes mellitus (T2DM) is one of the major causes of premature morbidity and mortality worldwide with the World Health Organization (WHO) reporting 14% prevalence among adults, 47% premature deaths in 2022 and >50% undiagnosed-DM (World Health Organization, 2024). Literatures indicate about 4-10% prevalence of prediabetes with >50% progressing to T2DM (Nwose et al., 2017; Rooney et al., 2023). The aim of this study was to determine the prevalence and driving-related factors associated with prediabetes and diabetes among commercial drivers in Benin City metropolis.

Methodology: This study employed a cross-sectional survey of 341 drivers of commercial motor-vehicle aged 20 - 70 years with mean age of 48.09 years ± 11.21 standard deviation in Benin City using random sampling technique. Socio-demographic data were obtained using self-administered Questionnaire. Fasting blood sugar (FBS) values were obtained using ACCU-CHEK Active Model: GB 31041669 device. FBS values of 70-99 mg/dl were considered normal, while values 100-125 mg/dl and $\geq$ 126 mg/dl were considered prediabetes and diabetes respectively. Data were analysed using IBM-SPSS version 29.0, and Chi-square test was used to determine significant differences between FBS and associated factors.

Results: The majority were males (95.6%). The prevalence of prediabetes and diabetes were 26.4% and 9.1% respectively. The mean FBS was 99.90 mg/dl; the 50th and 75th percentile were 97.0 mg/dl and 110.0 mg/dl respectively. Age and educational status were the socio-demographic factors that significantly associated with prediabetes and diabetes ($P< 0.05$). Moreover, years of driving and hours driven per day were the driving-related factors that were significantly associated with prediabetes and diabetes ($P< 0.05$).

Conclusion and Recommendation: The high prevalence of prediabetes may progress to diabetes without intervention. Fatigue due to long hours of driving daily may be a predisposing factor to road traffic accident. We, therefore, recommend that driver's unions should support commercial drivers to check their fasting blood sugar regularly. AI-powered risk predictive algorithms recommended for use by healthcare providers to analyse prediabetes patients' health records, and lifestyle factors to identify individuals at high risk of developing diabetes.

Keywords: Blood Sugar, Diabetes, Driver, Prediabetes, Accident

Determinants of Healthcare Accessibility and Utilization among Diabetic Patients in Gamawa LGA, Bauchi State, Nigeria

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Background and Aim: Diabetes is a major global public health issue. Inadequate access to healthcare services and poor utilization of available facilities are linked to adverse health outcomes, contributing to an increased burden of diabetes among patients. This study aimed to assess healthcare accessibility and utilization among diabetic patients in Bauchi State, Nigeria.

Methodology: A descriptive cross-sectional study design was adopted. Frequency counts and percentages were used to analyze respondents' demographic characteristics. Pearson Product Moment Correlation Coefficients were applied to test hypotheses at a 0.05 level of significance.

Results: Findings revealed that the majority of participants (154, 44.4%) were between the ages of 29 and 38. Over half (234, 67.4%) reported having no health insurance coverage. The level of healthcare utilization among respondents had a mean score of 10.8 ± 2.3, with 30% of respondents classified as having a low level of utilization. Accessibility was rated with a mean score of 15.4 ± 2.0. A moderate negative linear relationship was found between accessibility and utilization ($r = -0.5$). Additionally, 280 respondents (52.58%) reported financial hardship due to diabetes, while 184 (47.92%) expressed a positive perception of healthcare facilities. A moderate positive correlation was observed between perception and utilization ($r = 0.5$).

Conclusion and Recommendations: The study concludes that healthcare utilization among diabetic patients is influenced by factors such as age, gender, occupation, educational level, marital status, religious affiliation, and insurance coverage. Accessibility was significantly associated with poor healthcare utilization, while perception of healthcare facilities also played a notable role. The study recommends that implementation of electronic health records (EHRs) in primary healthcare centers to ensure continuity of care and reduce errors in diabetes management. Development of telemedicine services to link diabetic patients in rural Gamawa with specialists in urban areas, minimizing travel and improving care. Formation of community-based interprofessional health teams, including doctors, nurses, pharmacists, nutritionists, and community health workers, to deliver coordinated care. Integration of climate-sensitive health strategies, such as outreach services during floods or extreme heat, to maintain care continuity. Eventually, creation and distribution of tailored educational materials (in local languages and simplified formats) for both literate and non-literate populations, covering diabetes symptoms, risk factors, complications, and lifestyle modifications.

Keywords: Determinants, Healthcare, Accessibility, Utilization, Diabetic, Patients Bauchi, Nigeria

Prevalence and Socio-Demographic Correlates of Blood Pressure and Blood Sugar Levels Among Outpatients at a Health Awareness Campaign in Amai, Delta State

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Background and Aim: In Nigeria, non-communicable illnesses including diabetes and hypertension pose serious public health risks, especially because of their late identification and low community awareness. This study assessed the socio-demographic characteristics, blood pressure levels, and blood sugar levels of outpatients attending a community-based health education campaign to commemorate Healthy Lifestyle Awareness Day at a Primary Health Care (PHC) facility in Amai, Delta State.

Methodology: A descriptive cross-sectional study was conducted during the campaign at the PHC facility. All 87 outpatients who attended on the day were conveniently sampled. Structured interviews collected data on socio-demographics including age, gender, marital status, education, and occupation. Health education was provided on lifestyle modification for preventing hypertension and diabetes. Screening included blood pressure measurement using a digital sphygmomanometer and blood glucose testing (fasting or random) with a glucometer. Blood pressure and sugar levels were classified according to American Diabetic Association and World Health Organization guidelines. Data were analyzed using SPSS version 22.0, with chi-square and Fisher's exact tests used to determine associations between socio-demographics and screening outcomes. Statistical significance was set at $p < 0.05$.

Results: Participants' ages ranged from 18 to 90 years (mean = 47.13 ± 18.83). Most were female (78.2%), married (55.2%), employed (67.8%), and 75.9% had only primary or secondary education. Elevated blood pressure above 120/80 mmHg was found in 64.4%, while 35.6% had normal readings. Among fasting blood sugar tests, 28.7% (25) had normal glucose levels (<100 mg/dl), 17.0% (15) were prediabetic (100–125 mg/dl), and 5.7% (5) were diabetic (>125 mg/dl). Random blood sugar tests showed 8.0% (7) were prediabetic (140–199 mg/dl) and 40.2% (35) had normal levels (<140 mg/dl). A statistically significant association was observed between blood sugar status and gender ($p = 0.001$), and between blood sugar status and age ($p = 0.004$).

Conclusion and Recommendations: Screening revealed high prevalence of elevated blood pressure and notable prediabetes among PHC outpatients, with significant associations between blood sugar status, gender, and age. These findings highlight the need for AI-powered tools in primary healthcare to improve risk prediction, early screening, and tailored health education. A limitation was the small sample size, which may have reduced statistical power.

Keywords: Primary Health Care, Diabetes Mellitus, Hypertension, Non-Communicable Diseases, Blood Sugar Screening.

Knowledge, Attitude, and Practice of the Use of Herbal Plant Products in the Management of Diabetes and Diabetic Retinopathy among Residents in Rural Communities in Delta State, Nigeria

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Background and Aim: This study investigates the knowledge, attitude, and practice (KAP) regarding the use of herbal plant products in the management of diabetes and diabetic retinopathy among residents of Amai, Kwale, and Abbi communities in the neighbourhoods of Novena University.

Methodology: A descriptive survey design was adopted. A total of 250 residents participated during the World Diabetes Day medical outreach on 11th November 2024. Data were collected using a structured questionnaire and analyzed with descriptive statistics, including frequencies and percentages.

Results: Of the 250 respondents, 90 (36%) were males and 160 (64%) females. The majority were aged 26–35 years (32%), followed by 18–25 years (26%). Most had tertiary education (54%) and were mainly traders (36%) or civil servants (24%). Findings on knowledge revealed a relatively high awareness of herbal products for diabetes management, with 76% acknowledging awareness, though only 64% reported knowledge of specific herbs. About 68% had received information on herbal treatments, while 32% indicated inadequate dissemination of such knowledge. Overall, 86% expressed confidence in the effectiveness of herbal remedies. In terms of attitude, 56% preferred herbal remedies over conventional medicine, 52% trusted their effectiveness, and 70% believed they had fewer side effects. Furthermore, 72% indicated they would recommend herbal remedies to others. However, 32% remained skeptical, reflecting cautious optimism within the community. Regarding practice, 48% reported personal use of herbal remedies, while 52% combined them with conventional medicine. Traditional markets were the primary sources of these products (76%), though only 24% adhered to specific dosage guidelines. These results highlight widespread awareness, generally positive attitudes, and moderate adoption of herbal remedies, but practices remain largely unstandardized.

Conclusion and Recommendations: The study underscores the need for structured community education and integration of herbal practices into mainstream healthcare. Health authorities and community leaders should organize regular awareness programs to educate residents about specific herbal remedies, their benefits, and proper usage, emphasizing safe and effective practices. Collaboration with traditional healers and herbal practitioners is vital to ensure alignment with scientific knowledge and to provide holistic patient care. Importantly, Artificial Intelligence (AI) can play a transformative role by developing digital platforms and mobile applications for patient education, monitoring herbal remedy usage, predicting potential herb–drug interactions, and offering decision-support systems for healthcare providers. AI-driven analytics can also enable policymakers and researchers to better understand community health trends and optimize strategies for diabetes and diabetic retinopathy management. In conclusion, community engagement, professional interventions, and digital innovations are essential to bridge existing gaps and promote the safe and effective use of herbal remedies through collaboration between traditional and modern healthcare systems.

Keywords: Knowledge, Attitude, Practice, Herbal Plant Products, Diabetes, Diabetic Retinopathy

Nutrition and Health

Perceived Effects of Nutrition on Health Outcomes Among the Elderly in Igbokoda Local Government Area of Ondo State

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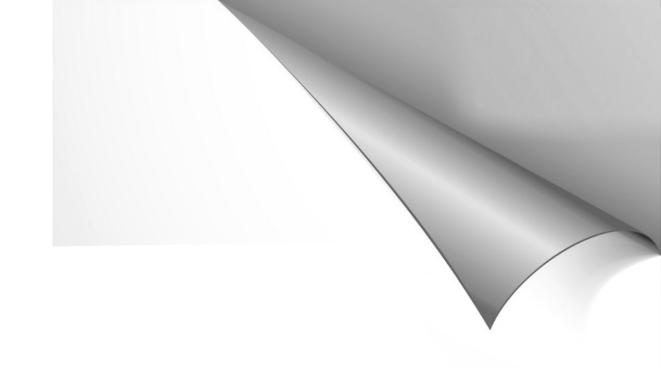+2347030839248, +2349028890894

Background and Aim: The nutritional needs of the elderly are distinct due to physiological changes associated with aging, including decreased metabolic rate, changes in body composition, and reduced physical activity. In Nigeria, where the elderly population is rapidly increasing, understanding the role of nutrition in health outcomes is crucial in maintaining the quality of life among the elderly. This study investigated the perceived effects of nutrition on health outcomes among the elderly in Igbokoda Local Government Area, Ondo State, Nigeria.

Methodology: The research employed a descriptive cross-sectional design, involving 400 elderly participants (65 years and above) purposively selected from seven communities in Igbokoda Local Government Area. Data collection was conducted through the use of a pre-tested questionnaire, developed to assess socio-demographic characteristics, dietary habits, physical activities, lifestyle, and health outcomes. Data analysis was conducted using SPSS version 25. The analysed data were presented both in descriptive and inferential statistics at $P<0.05$ statistical significance.

Results: Most of the respondents, 250(62.5%), were aged 60-70 years, and mostly males, 230(57.5%). About half, 50% of respondents, rated their diet as very poor and knew the major food groups. A quarter of 100(25.0%) had knowledge of the source of protein from diet. Only a few 50(12.5%) engaged in physical activity daily, with walking 300(75.0%) as the most engaged physical activity. About 228(57.0%) of the respondents were overweight and 90(22.5%) were obese. Health issues reported by the respondents included fatigue 150(37.5%), joint pain 150(37.5%) and memory problems 200(50.0%). Diabetes 250(62.5%) and hypertension 350(87.5%) were the two most commonly reported disease conditions. Inferential statistics reveal significant relationships between educational level and nutrition knowledge, with education explaining 58% of the variance in nutrition understanding ($R = 0.761$, $R^2 = 0.580$) and demonstrating significant model fit (ANOVA: $F = 548.900$, $p < 0.05$). Gender also influences dietary choices, particularly regarding sugary consumption, accounting for a 15.4% variance and maintaining significance ($R = 0.392$, $R^2 = 0.154$, $F = 72.303$, $p < 0.05$). Moreover, a strong correlation exists between fruit and vegetable intake and BMI ($R = 0.747$, $R^2 = 0.558$, $F = 501.904$, $p < 0.001$).

Conclusion and Recommendation: The elderly have poor nutritional knowledge, dietary habits, and physical activities, which could have an impact on their health outcomes. The study recommends implementing community-based AI-powered natural language processing and interactive voice response systems to aid the design of nutrition education programs to improve dietary knowledge, support appropriate dietary practices, and improve physical activities among the elderly.

Keywords: BMI, Dietary Habits, Elderly, Nutritional Knowledge, Health Outcomes.

Reproductive and Sexual Health

Knowledge of Cervical Cancer and Prevalence of Pre-cancerous Lesions among Rural Women in Ondo State, Nigeria

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Background and Aim: Cervical cancer remains one of the leading causes of cancer-related mortality among women in Nigeria. It is the only gynecological cancer with a screening test that detect its pre-cancerous stage, providing opportunity for early intervention. Despite the proven effectiveness of cervical screening in detecting precancerous lesions and reducing both incidence and mortality, screening uptake in Nigeria is remains low. This study aimed to estimate the prevalence of precancerous lesions and assess the knowledge of cervical cancer among women in Idasan Community, Owo Local Government Area, Ondo State, Nigeria.

Methodology: A descriptive cross-sectional study was conducted among women age 25-65 years in Idasen community during a two-day cervical cancer awareness programme. Data on socio-demographic characteristics, knowledge of cervical cancer, associated risk factors and screening uptake were collected using a pre-tested semi-structured questionnaire administered at the screening venue. Nine-nine (99) eligible and consenting women were screened for pre-cancerous lesions by certified nurses trained for cervical screening using by Virtual Inspection with Acetic Acid (VIA).Ethical approval was obtained from the Ondo State Research Ethics Committee OSHREC/13/02/2025/806. Data were analysed with Statistical Package for the Social Sciences (SPSS) version 26.0 by IBM. Knowledge was measured on a 18-point scale developed from the test items of the questionnaire and categorized as <9 low, and ≥9 high knowledge. Chi-square tests and multivariate were used, with a p-value of <0.05 was considered statistically significant.

Results: The participants' median age was 35.99 ±7.96 years. Most participants 55(55%) were married, out of which 26(47%) got married between the ages of 25 and 29 years. Most of the respondents 89% has multiparty (having more than 3 children). Only 36% were aware of cervical cancer, while only 4% had ever undergone cervical cancer screening prior to the study. Ninety-seventy participants (97%) consented to VIA cervical screening, of which 92% tested negative, 5% tested positive for precancerous lesions. Cervical precancerous lesions were more prevalent among women between the ages 30-34 and 35-39 years. Women age 30-34 years were more likely to test positive for pre-cancerous lesions (Odds Ratio [OR] =3.67; 95% Confidence Interval [CI]=0.311-43.271). Similarly, married participants had higher odds of testing positive for precancerous lesions (OR=3.61, 95% CI=0.392-7.55) and participants who got married between the ages of 20 and 24 years also showed increased likelihood of testing positive for precancerous lesions (OR=5.20, 95% CI=0.438-61.68).

Conclusion and Recommendations: This study established poor knowledge of cervical cancer, low screening uptake with substantial prevalence of precancerous lesions significant to public health with few consented women screened in this study. This necessitates the need for targeted prevention strategies in rural settings. Integrating AI-driven screening decision tools and community-based digital health education to improve cervical awareness, knowledge and early detection of precancerous lesions.

Keywords: Visual Inspection, Precancerous lesion, Screening uptake, Prevalence

Men's Knowledge, Attitudes, and Participation in Family Planning Decision-Making in Selected Communities of Uturu, Abia State, Nigeria

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Background and Aim: Family planning is a vital intervention for reducing maternal and child mortality, preventing unintended pregnancies, and promoting gender equity. Despite men being the primary decision-makers in most African families, their involvement in family planning remains low. This study examined men's knowledge, attitudes, and participation in family planning decision-making among couples in selected communities in Uturu, Abia State, Nigeria.

Methodology: A descriptive cross-sectional survey was conducted among 386 men aged 18 years and above in Achara, Ngodo, Umu-Anyii, Akpukpa, and Isunabo communities of Uturu. A multistage sampling technique was employed: communities were first selected by simple random, then households sampled systematically, and within each household, one eligible man was chosen by simple random selection. Data were collected using a structured questionnaire covering socio-demographic characteristics, awareness, attitudes, and participation in family planning. Analysis was done using descriptive statistics, including frequencies and percentages.

Results: Awareness of family planning was almost universal, with 98.7% in Achara, 100% in Ngodo and Umu-Anyii, 90.9% in Akpukpa, and 97.4% in Isunabo reporting knowledge of at least one method. Condoms were the most widely known method, with 92.2% in Umu-Anyii and 80.5% in Ngodo identifying them, compared to just 31.2% in Akpukpa. Health facilities (57.1% in Achara; 63.6% in Ngodo) and media (74.0% in Umu-Anyii) were the main sources of information. Regarding decision-making, 75.3% in Achara, 70.1% in Ngodo, and 92.3% in Isunabo reported that family planning decisions were made jointly by both spouses. However, only 23.4% in Achara and 10.3% in Isunabo had ever accompanied their spouses to a health facility for family planning. Support for spousal use of family planning was highest in Achara (100%) and lowest in Isunabo (24.4%). Barriers to use of family planning included fear of side effects (64.9% in Akpukpa; 51.9% in Ngodo), lack of awareness (63.6% in Umu-Anyii; 60.3% in Isunabo), and religious beliefs (27.3% in Umu-Anyii; 26.9% in Isunabo). Willingness to use male contraceptives was highest in Achara (100%) and Umu-Anyii (97.4%) but lowest in Isunabo (52.6%).

Conclusion and Recommmnedations: Although men in Uturu demonstrated high awareness and positive attitudes toward family planning, their actual involvement is limited. Knowledge was strongest for condoms, but misconceptions and fear of side effects persist. Communities like Isunabo exhibited the weakest male engagement, underscoring the need for targeted educational interventions. Strengthening men's role in family planning through awareness programs, community engagement, and collaboration with religious and traditional leaders is critical for enhancing reproductive health outcomes and achieving shared responsibility in decision-making.

Keywords: Male Involvement, Family Planning, Decision-Making, Reproductive Health, Nigeria

Challenges of Hospital Management and Healthcare Service Administration on Infertility in Nigeria

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Background: Infertility is a public health problem affecting millions of people in Nigeria. It is a reproductive health problem, which is the inability to conceive without a contraceptive, unprotected sex, among couples of reproductive ages. To explore the current challenges of hospital management of infertility and provision of quality healthcare services to affected individuals that attends fertility clinic in Nigeria.

Methodology: This was a narrative review study, using the scale for the quality assessment of narrative review articles (SANRA) principle (Baethge et al., 2019). Scoping review method was adopted to identify literatures on infertility and its management in Nigeria. The search platforms were PubMed and google scholar and articles extracted in April 2025. Focus was on infertility management and administration of healthcare services with 7-thematic syntax that comprised management of health services organisation, healthcare system, health law, health economics, strategic planning and marketing, human resource management and quality management.

Results: There is lack of specialized infertility clinics and trained personnel in health care system. Major health care system challenge in Nigeria includes poor funding and staffing, underpinning the affordances (i.e. accessibility and affordability) of infertility services being out of reach of clients in poor socioeconomic strata, especially poor families in rural areas. The limited access to assisted reproductive technologies further increases the burden of infertility on couples. Challenges facing infertility management at the clinic level include healthcare law that provides for out-of-pocket payment for healthcare, which weakens the healthcare facilities to provide service, and clients' ability to access services. Stigmatization of the affected couple due to cultural belief leads to psychological distress and social isolation. There is lack of public health education regarding this issue of stigma. Poor quality services are due to lack of modern tools buoyed by poor power supply. Further, there is lack of coordination across the 3-tier system of healthcare in infertility services. Clients are unable to attend the PHC level, nor is there clear referral from secondary to tertiary care.

Conclusion and Recommendations: There is need for improvement in hospital management and health care services administration for infertility in Nigeria. Establishment of more specialized infertility clinics, affordability of the assisted reproductive technologies services to the grassroot, and training program for health care professionals, attractive welfare package including good salary for health workers will help to reduce migration of Nigeria heath personnel to developed countries. Collaborative efforts between government agencies, healthcare providers and community stakeholders to improve the quality of care for individuals affected by infertility. Artificial intelligence (AI) holds significant potentials in addressing infertility management (Kakkar et al., 2025). The potentials to revolutionize the field of infertility treatment in Nigeria has been reported in include service for productive women (Tadese et al., 2025); while low levels of awareness and acceptance of modern technologies are still high (Roomaney et al., 2024). Therefore, there is need for improved public health education, including the role of AI among both clients and providers of infertility services.

Keywords: Infertility, Management, Healthcare, Artificial intelligence

Knowledge And Preventive Practices of Breast Cancer Among Female Law Students of Osun State University, Nigeria

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Background and Aim*:* Breast cancer (BC) is the commonest of all forms of cancer ravaging and causing major threats and death to women of reproductive age. Female university students are more prone to this due to their unhealthy lifestyle and exposure to risk factors. Treatment of BC is capital expensive, however, preventive practices such as Breast Self-Examination (BSE), Clinical Breast Self-Examination (CBE) are affordable but not being practiced or utilised. The study investigated knowledge and adoption of preventive practices of BC among female law students of Osun State University (UNIOSUN), Nigeria.

Methodology: A descriptive cross- sectional survey was used. A total of 250 female students of the Faculty of Law of the Ifetedo Campus were purposely sampled, using a self-administered, semi-structured questionnaire. Data were analysed using descriptive and inferential statistics with SPSS version 23.0 at p=0.05.

Results: One third (31.2%) were within the age group 25-29 years; 78.0% were single. One third (30.8%) were in their first year; 46.0% were Christians. All (100%) had heard and most (98.0%) knew BC can be prevented if detected early; 20.0% had family first orders with history/diagnosed BC. About half (48.0%) believed CBE is the most common methods of detecting BC, with BSE helping individuals to be familiar with the breast texture (40.0%). Overall, 98.0% had good knowledge and 80.0% reported adoption of preventive practices against BC; 28% had reported abnormality, 58% had sought counsel from nurses when pains were observed; however, 60% and 68% had not gone for BC screening and mammography in the last 12 months; only 56% reported monthly practice of BSE, 40% had seen a medical doctor regarding changes in their breast and 28% had conducted lab test when lumps were observed.
Forty percent (40.0%) would see a doctor immediately if abnormality is detected, 20.0% would seek spiritual help instead. Lack of pre-counselling services (82.4%), non-availability of testing centres (60%), religious beliefs/practices (60.0%), fear/anxiety of the outcome of the test (52%) influenced non-adoption of preventive practices. Association existed between knowledge and practice of BC (*p=0.000*), religion and practice (*p=0.001*), level of study and practice (*p=0.000*), and age and practice (*p=0.000*).

Conclusion and Recommendations: There is adequate knowledge of BC, however, this does not translate to adoption of preventive practices among UNIOSUN law students. Female students should be given more information about BC to increase their knowledge and adoption of preventive measures against the disease. Integrating artificial intelligence, such as chatbot, as school coach can increase knowledge, help impact skills and enhance practices against breast cancer.

Keywords: Breast Cancer, Prevention, Knowledge and Practice

Hepatoprotective and Haematological Assessment of *Curcubita pepo* Seed Extract on Testosterone Propionate-Induced Benign Prostatic Hyperplasia in Male Albino Rats: Implication for Public Health

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Background and Aim: Benign prostate enlargement is an overgrowth of the prostate. As the prostate enlarges, it compresses the urethra leading to incomplete bladder emptying, dysuria, and bladder outlet obstruction. This research was designed to assess the hepatoprotective and haematological effects of *Curcubita pepo* seed-extract (CPSE) on testosterone propionate-induced Benign Prostatic Hyperplasia (BPH) in male albino rats.

Methodology: After one week of adaptation, a total of 60 male albino rats were randomly divided into six experimental groups (A-F) of ten rats per group. Group A served as normal control and received only the vehicle, olive oil. Testosterone propionate (TP), at 14 mgKg^{-1} body weight was administered intraperitoneally daily to groups B to F for 4 weeks to induce BPH. Then, 10 mgKg^{-1} of finasteride (F), was administered for 4 weeks to group C rats through oral intubation. Groups D, E, and F were orally administered extract of CPSE at the doses of 200, 400, and 800 ml/Kg body weight daily for four weeks. The albino rats were anesthetized and sacrificed, and the tissues were collected for analysis. Liver and haematological parameter were performed using standard laboratory methods.

Results: Testosterone propionate-induced benign prostatic hyperplasia in albino rats revealed a significant ($P<0.05$) increase in the levels of total white blood cell count and platelets, with a significant ($P<0.05$) increase in the activities of ALT, AST, and ALP together with a significant ($P<0.05$) decrease in the levels of hemoglobin, PCV, and RBC when compared to the normal control group. However, treatment with both standard drug and CPSE at the stipulated doses reversed the trends of these markers to a level comparable to the normal control.

Conclusion and Recommendations: These findings indicate that CPSE could be effective in the management of BPH and its associated disorders in men and may reduce the mortality of BPH in men above 45 years of age who consume the plant. Purification of the bioactive compounds are recommended.

Keywords: Hepatoprotective, Haematological, *Curcubita pepo* seed-extract (CPSE), testosterone propionate-induced Benign Prostatic Hyperplasia,

Practice of Breast Self-Examination amongst Female Undergraduate Students

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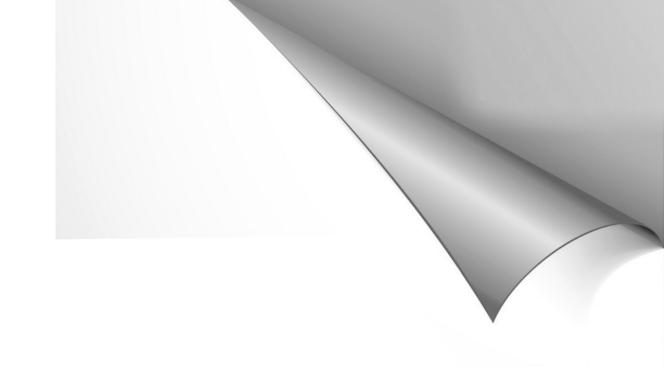
Background and Aim: Breast cancer remains a leading cause of morbidity and mortality among women. Early detection through breast self-examination (BSE) remains vital. In today's digital age, artificial intelligence (AI) is emerging as a valuable tool for supporting awareness campaigns, enabling personalized health education, and improving data-driven decision-making in breast cancer prevention strategies. This study examined the practice of BSE among female undergraduate students.

Methodology: A descriptive cross-sectional design was adopted with a sample size of 303 female students. Ethical clearance was obtained from the RSUTH Ethics Committee (RSUTH/REC/2024/648). A multi-stage sampling technique was employed. Departments within the College were stratified into Basic Medical, Clinical, and Allied Health Sciences. Within these, stratified random sampling was used to select participants (4.6%, 47.9%, and 47.5% assigned to Allied Health, Basic Medical, and Clinical Sciences, respectively). Data were collected using a structured, self-administered questionnaire and analyzed using descriptive and inferential statistics (Chi-square tests). The practice score was graded as follows: <50%, 50-59%, 60-79%, and 80-100%, indicating poor, moderate, good, and excellent practice, respectively.

Results: The study revealed that the majority (68.0%) of students started their practice of BSE at 15-20 years, while others started at 21-25 years (15.2%), and 26-30 years (0.3%). 16.5% opined that they have never practiced BSE. Also, there was relatively good practice (61%) of BSE among the students. However, several barriers to regular practice were identified, including a lack of breast symptoms, distrust in BSE as a reliable detection method, fear of discovering a lump, forgetfulness, and uncertainty about BSE's efficacy. These barriers suggest a perceived low personal susceptibility to breast cancer, especially among those without a family history of the disease. Chi-square analysis further demonstrated significant associations between BSE practice and socio-demographic factors such as age ($\chi^2 = 15.499$), year of study ($\chi^2 = 36.137$), faculty ($\chi^2 = 23.301$), and department ($\chi^2 = 39.273$), all at $p < 0.05$. However, marital status ($\chi^2 = 3.124$) and family history of breast cancer ($\chi^2 = 3.458$) showed no significant association ($p > 0.05$).

Conclusion and Recommendation: The findings underscore the need for continuous advocacy on breast health within universities. While the overall practice of BSE was encouraging, identified barriers suggest the need to embrace AI-driven approaches in education and screening, as this will strengthen preventive strategies and empower more students to adopt self-examination practices. Encouraging innovations like using AI-powered mobile apps to remind students to practice BSE regularly, deliver tailored Breast Health Information, or even simulate how to perform BSE correctly. AI can also be used to predict which student populations are most at risk of poor practice of BSE, which can guide tailored interventions and resource allocations.

Keywords: Breast Cancer, Breast Self-Examination, Knowledge, Risk Factors, Female Undergraduates, Public Health.

Use of Psychoactive Substances

Prevalence Of Alcohol Use Disorder Among Healthcare Professionals in Federal Medical Center Yenagoa, Bayelsa State, Nigeria

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Background and Aim: Alcohol is a distinctive and profoundly habit-forming substance with numerous motives or reasons associated with its usage. Considering the enormous negative impact of Alcohol Use Disorder (AUD) on the health of healthcare professionals and the critical role they play in providing healthcare services to the public generally, it is imperative to assess the prevalence of alcohol use disorder and the factors influencing alcohol use among healthcare professionals in Federal Medical Center (FMC) Yenagoa.

Methodology: This descriptive cross-sectional survey involved 394 healthcare professionals in FMC Yenagoa to gather information about the prevalence of alcohol use disorder. The data obtained was analyzed using The Statistical Package for Social Sciences (IBM SPSS) version 25.

Results: The findings showed that 152(40.0%) of the participants were males and 229(60.0%) were females. 240(63%) participants were between the ages of thirty and above and 229(60%) were married. Only 10% of the respondents reported that they have never used alcohol or any drink containing alcohol. 60% of the respondents had low AUD risk. AUD was significantly associated with age, sex, marital status, years of experience and hours spent at work, sleep hours ($P<0.05$), with sex, marital status, average sleep hours, and hours at work being positively associated. Age, years of experience in healthcare was negatively associated with AUD risks. Participants aged 30 years and above were 0.2 times less likely to have AUD compared to those below 30 years (OR: 0.281, 95% C.I: 0.168 to 0.473). Male participants were 3 times more likely to have AUD compared to female participants (OR: 3.000, 95% C.I: 1.760 to 5.114). Participants who were married were 2 times more likely to have AUD compared to those not married (OR: 2.000, 95% C.I: 1.214 to 3.294).

Conclusion and Recommendations: This study assessed the prevalence of alcohol use disorder (AUD) among healthcare professionals in Federal Medical Centre (FMC), Yenagoa. There was association of AUD with significant variables, indicating a significant risk of AUD among healthcare professionals, particularly young males, creating a threat to healthcare quality, worker wellbeing, and institutional efficiency. Artificial Intelligence (AI) can aid prevention through early risk detection, personalised interventions, virtual counseling, and monitoring. Additionally, AI analytics can guide workplace policy reforms and deliver targeted education, offering innovative strategies to reduce AUD risk and promote healthier work environments in healthcare settings.

Key words: Alcohol, Alcohol Use Disorder, Prevalence of Alcohol Use Disorder, Healthcare Professionals

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Category of manuscript: The journal offers an opportunity to communicate research through manuscript submissions to cover empirical studies, systematic reviews of specific subjects/phenomena, innovative ongoing projects, data communications and repositories, and letters to the editor addressing important issues related to public health.

Manuscript Submission: Send your prepared manuscript for consideration to the editor-in-chief via email at aphtresconf@gmail.com with a cover letter indicating the proposed category of the article (e.g., Empirical Research, Systematic Review, Letter to the Editor, Preliminary Data Notes) and a clear statement that the manuscript has not been submitted elsewhere for publication. The author(s) should ensure that the manuscript submission is consistent with the journal requirements stated below and has been seen and approved by all authors.

Manuscript Preparation: Manuscript for submission should be prepared in MS Word. Organize submission to follow this order: title page with names and addresses of authors, abstract with five keywords, body of the paper, acknowledgments, declarations of conflict of interest, references, tables, and figure legends. Appendix materials and figures should be in separate files.

Title Page: The title page should give complete information about each author (i.e., full name with authors' First Name followed by Surname, graduate degree(s), institutional affiliations, and the name of the institution in which the work was done). Identify the corresponding author and provide the author's mailing address (including phone number and email address). The title, if empirical study, should normally show the independent variable(s) and dependent variable; if reviews, the theme of the review with a semi-colon followed by "A systematic review" or "A critical appraisal."

Abstract with Keywords: The abstracts submitted for possible publication should not exceed 300 words and must conform to the four-section health science format showing a statement of the problem and gap in knowledge identified, objectives of the study or methodology, results, and conclusion/recommendations. Keywords should not exceed five and consistent with terms as listed in the National Library of Medicine Medical Subject Headings Index (www.ncbi.nlm.nih.gov/mesh)

Text: When submitting the manuscript, double-space everything, including the title page, abstract, references, tables, and figure legends for editorial work. Indent paragraphs; leave no extra space between paragraphs. After a period [.], leave only one space before beginning the next sentence. Use 12-point Times New Roman font and format with justification on right margins (left justification). Italicize (rather than underline) scientific names when needed. Include continuous line numbers for editorial purposes.

Body of the Manuscript: Manuscript format should follow the American Psychological Association (APA) referencing guide 7th edition. This can be accessed online at https://www.apastyle.org/

References: the American Psychological Association (APA) referencing guide 7th edition. Do not use endnotes for references.

Tables: Provide tables within the manuscript file, not as separate files. Use the MS Word table tool, no columns, tabs, spaces, or other programs. Annotation of table contents requires special attention. Tables should be no wider than 17 cm. Condense or divide larger tables. Extensive tables may be made available online only.

Figures: Submit editable figures as separate files (e.g., Microsoft Excel, PowerPoint). Photographs should be submitted as high-resolution (600 dpi) .tif or jpg files. Do not embed it in the manuscript file. Use Arial 10 pt. or 12 pt. font for lettering so that figures, symbols, lettering, and numbering can remain legible when reduced to print size. Place figure keys within the figure. Figure legends should be placed at the end of the manuscript file.

Types of Articles

Empirical Research: Articles should not exceed 3,500 words and need 50 references. Use five main headings such as Introduction, Methods, Results, and Discussion/recommendations and Implications for Practice. Use of subheadings under main headings in the main body of the text is recommended but must be in italics light, such as *Study design, Population, Instrument design and measures, Ethical Considerations and Data Analysis* appearing under Methods. Photographs and illustrations are encouraged. Report laboratory and epidemiologic results from a public health perspective. Explain the value of the research in public health terms and place the findings in a larger perspective (i.e., "The study found the following, and this is the implications for practice").

Systematic Reviews: Articles should be no more than 3,000 words and should be divided into sections - Introduction, Methods (*Search strategy, Inclusion and Exclusion criteria of studies, Selection of studies*, *Assessment criteria, Data extraction and synthesis, Data interpretation*), Results *(Study characteristics-strengths/weaknesses and opportunities, Assessment of findings from studies reviewed)*, Discussion and conclusion *(Discussion of implications of findings and what has been established by the review, Strengths and limitations, Implications for public health practice, conclusions)*. Provide references (*not to exceed 50*); figures or illustrations (not to exceed 2); tables (not to exceed 2).

Data Notes: Annals of the Association for Public Health encourage the publication of data synthesized from reviews and fieldwork to communicate the nature of findings and trends. The author should comment on the purpose of the data presentation and implications of such data in not more than 500 words in the main body and may include either 1 figure or 1 table. If the data set is part of a larger study, the author should indicate and describe the original study briefly.

Conference Summary: Summaries of public health conference activities (500-1,000 words) are published. They should be submitted no later than 4 months after the conference and focus on events, proceedings, and resolutions at the conference. Provide illustrations, references, and briefs to full reports of conference activities.

Announcements: We welcome brief announcements of timely events of interest to our readers.
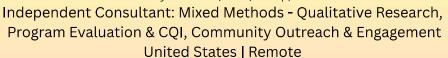
Processing and Publication fees

An initial submission fee of twenty thousand Naira (N20, 000) or $20.00 (Twenty-Five US Dollars) should accompany every manuscript submitted. This would be a processing fee for editorial decisions on manuscripts conforming to the accepted required standard and a publication fee of forty thousand Naira (N40, 000) or $50 (fifty US Dollars) paid into the Association's account following acceptance to publish the paper. After publication, a copy of the volume in which the author's article has appeared would be mailed to the corresponding author for distribution to co-authors.

For further information, please contact APHTReS Editorial Office:
annalofaphtresjournal@gmail.com

Elile Consulting

Chinenyenwa Elile, MPH, PGDip, MBBS

Independent Consultant: Mixed Methods - Qualitative Research, Program Evaluation & CQI, Community Outreach & Engagement

United States | Remote

Advancing equity-centered public health, research, and community-based initiatives

About Elile Consulting

Launched in 2025, Elile Consulting is a personal consulting brand offering independent services in: Qualitative Research, Program Evaluation, Continuous Quality Improvement (CQI), Community Outreach & Stakeholder Engagement, Strategic Planning for Equity-Centered Public Health Initiatives.

While early in its development, Elile Consulting reflects a strong commitment to advancing community well-being and supporting organizations through evidence-based, culturally responsive collaboration.

Consulting Services & Approach

🔍 *Mixed methods - Qualitative Research*

- Conduct community needs assessments - develop surveys, facilitate qualitative data collection through in-depth interviews, focus groups, listening sessions, and open-ended questionnaires.
- Conduct thematic analysis to elevate community voice and lived experience - bringing forward the real-world stories, needs, and perspectives of community members to inform programs, policies, and decision-making.

📊 *Program Evaluation & CQI*

- Develop program logic model and apply culturally responsive & equitable evaluation (CRE) theories and frameworks to assess and strengthen programs
- Integrate CQI tools; provide grant administration; develop comprehensive evaluation reports, data visualizations with key metrics, and dissemination materials tailored to diverse stakeholders

🤝 *Community Outreach & Engagement*

- Design and implement culturally responsive strategies tailored to community needs & priorities.
- Co-design recruitment tools, health education materials & community-informed interventions.
- Organize and facilitate outreach events and stakeholder sessions that promote awareness, build trust, and empower families and communities to make informed decisions

🧠 *Systems Thinking & Equity Focus*

- Collaborate with partners to design community-centered solutions that address social determinants of health and reduce disparities
- Apply an equity-centered lens to ensure alignment with both organizational goals and community needs

Guiding Philosophy
"People do not care how much you know until they know how much you care." – *Maya Angelou*
This quote has guided my approach to community engagement, relationship building, and equity-centered collaboration - committed to co-creating solutions that are responsive to community needs and rooted in public health principles. Rooted in the African proverb **"It takes a village,"** I believe that sustainable change happens when we work together with empathy, humility, and shared purpose.
Let's Collaborate.):.

Elile Consulting is currently open to short- or long-term partnerships with academic institutions, public health agencies, research teams, and community-based organizations. I bring a collaborative, equity-driven, innovative, creative, and detail-oriented mindset to every project to drive quality outcomes and create lasting impact.

Email: *elileconsulting001@gmail.com*   LinkedIn: *www.linkedin.com/in/chinenyenwa*

Note: *Elile Consulting is a personal brand and is not yet a formally registered business entity.*

Sci-Space
DO SCIENCE. LOVE SCIENCE

SCIENCE SPACE INITIATIVE

WHO WE ARE

We are a networking platform for young scientists in Nigeria—a central hub that exposes young scientists to the innovative world of science.

WHAT WE DO

We provide access to experienced mentors in various fields of basic science (mentor-mentee relationships), create platforms for capacity development for students, and seek out opportunities for scholarships and student exchange programs. We also run programs that aid in career navigation and development, give students opportunities to share their goals and basic science projects, and track their progress to achieve their dreams.

OUR OBJECTIVES

Strengthening the scientific community in Nigeria

Creating a networking platform for young scientists

Initiating collaborative training sessions with professional partners

Supporting professional growth and career development

Pushing for innovation through research

Advocating for standard scientific practices

Creating mentor/mentee relationships

Exposing young scientists to the diverse world of science

WE OFFER

Mentorship

We provide access to experienced mentors in various fields of science

Internships

We create a platform for capacity development for students through internships

Scholarship Opportunities

We facilitate scholarships and student exchange programs within our community

OUR TEAM

Joyce Aja
Founder

Goodluck Benjamin
Co-founder

Dr. Ezinne Aja
Co-founder

Adedoyin Aluko
Co-founder

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THE ASSOCIATION FOR PUBLIC HEALTH TEACHING,
RESEARCH AND SERVICE (APHTReS)

6th

International
Public Health
Conference

Theme:

Artificial
Intelligence &
Educational Technology

in Public Health Teaching,
Research and Community Service

📅 **October, 6-8, 2025**

📍 **Novena University, Amai Campus Delta State**

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