


Faculty of Health Sciences and Technology (FHST)
University of Nigeria Enugu Campus

# 5Th | INTERNATIONAL SCIENTIFIC CONFERENCE

**THEME:**

## Harnessing Emerging Technologies to Transform Health Sciences Education, Research, and Clinical Practice

# CONFERENCE PROCEEDINGS

**VENUE**
FHST Conference Hall
University of Nigeria,
Enugu Campus

**DATE**
30th June - 1st July 2026












**SPACE-EDGE**

architects and planners.

spacedgearch6@gmail.com
08068396377

**Note**

1. this drawing is copyright protected and must not be reproduce without permission.
2. authorization to use this drawing is deemed after professional settlement..

Client: UNIVERSITY OF NIGERIA, ENUGU

project: PROPOSED F.H.S.T COMPLEX

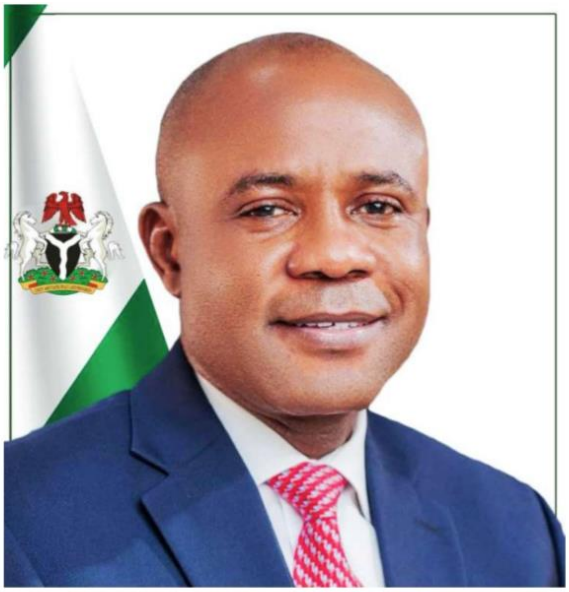
location: U.N.E.C, ENUGU

# 3D

JUN-2025

Drawn by IBE C. A

Checked by ASOGWA C A



*His Excellency*

**BARR. PETER NDUBUISI MBAH**

***Governor of Enugu State***



**PROF. SIMON UCHENNA ORTUANYA**

**SJD, (LOYOLA, CHICAGO) LL.M(UNILAG) LL.B (UNN) FCIArb, FCIA,**

**Vice-Chancellor. UNN**



**PROF. JOSEPHAT U. J. ONWUMERE**
**DVC, UNEC**



**VEN. PROF. HYGINUS U. EZEGWUI**

**(MBBS (Nig) *FWACS, FMAS, FICS*)**
**Provost College of Medicine, University of Nigeria, Ituku-Ozalla Campus, Enugu**



**PROF. CAJETAN ONYEDUM**
*MBBS, FWACP, FCCP*
*Deputy Provost College of Medicine, University of Nigeria,*
*Ituku-Ozalla Campus, Enugu*



## PROF. CHARLES I. EZEMA

**BMR (PT) M.Sc, Ph.D(Nig) Ph.D (EBSU)**

**Dean Faculty of Health Sciences and Technology**



**Ihionu M.C, KSJI, JP, Ph.D, FMLSCN, MNIM,**
**CEO. MCCHUKS MEDICAL DIAGNOSTIC CENTRE**
**ENUGU**



**PROF. CHRISTOPHER B EKE**
*MBBS, FWACP(Paed), M Phil., Certificate in Gastroenterology (SA)*
**CHAIRMAN OF THE OCCASION**

# DEANS OF FACULTIES



**Prof. Christopher B Eke**
*MBBS, FWACP(Paed), M Phil., Certificate in Gastroenterology (SA)*
**Faculty of Clinical Sciences**



**Prof. Linda Oge Okoye**
*BDS Nig, FMCDS, FICD, FICS, FIIA, Cert. in Impantology*
**Faculty of Dentistry**



**Prof Charles Ezema**
*(PT) M.Sc, Ph.D(Nig) Ph.D (EBSU)*
**Faculty of Health Sciences and Technology**



**Prof Raphael Anakwue**
*MBBS, M.Sc., FWACP, FNCS*
**Faculty of Basic Clinical Sciences**



**Prof. Emmanuel Anyachukwu Esom**
*Ph.D, FECAN*
**Dean, Faculty of Basic Medical Sciences**

# LOC MEMBERS



**Dr. Eyiuche Ezigbo**
Chairman



**Nurse Chijioke Oliver Nwodoh, Ph.D**
Secretary



**Pastor, Dr. Canice C. Anyachukwu**



**PT. Uduonu M. Ekezie**



**Dr. (Mrs) Ijeoma Judith Ilo**
**Assoc Dean, FHST.**



**Rev. Sr. Dr. Paulina Chigwara Chikeme**



**Dr (Mrs) Ifeoma Ikegwuonu**



**Dr. (Mrs) Ifeyinwa**



**Mr. Emembolu E. Olisa**



**Mrs. Okwu V. Obinauju**

# OPENING CEREMONY PROGRAMME

1. National Anthem
2. UNN Anthem
3. Introduction of the members of the high table
4. Vice Chancellor's Remarks and declaration of the conference open
5. Chairman's Remarks
6. DVC's Remarks
7. Provost's Remarks
8. Welcome address by Dean FHST
9. Citation of the guest lecturer
10. Unveiling of the new faculty building design
11. Vote of thanks by LOC Chairman
12. National and UNN Anthem
13. Closing of the opening Ceremony

## NATIONAL ANTHEM

Nigeria, we hail thee,
Our own dear native land,
Though tribe and tongue may differ,
In brotherhood we stand
Nigerians all,
Are proud to serve our sovereign Motherland.

Our flag shall be a symbol
That truth and justice reign,
In peace or battle honoured,
And this we count as gain,
To hand on to our children
A banner without stain.

O God of all creation,
Grant this our one request:
Help us to build a nation
Where no man is oppressed,
And so with peace and plenty
Nigeria may be blessed.

## THE PLEDGE

I pledge to Nigeria, my country
To be faithful, loyal and honest
To serve Nigeria with all my strength
To defend her unity and uphold her honour and glory
So help me, God.

## UNN ANTHEM

Hail Varsity of Nigeria, My Alma mater
**Refrain:** Hail her and rejoice for the sake of truth
Where young men and women do seek for knowledge
**Refrain:** Hail her and rejoice for the sake of knowledge
Where the nations potentials do brood in the nest
**Refrain:** Hail her and rejoice for her noble ideals
Hail Varsity par excellence our dreams come true
**Refrain:** Hail her and rejoice for the giant awakes
**All:** My Alma mater, My Alma mater Noble are thy looks and thy ideals And great art thou in Science and in Arts In other realms of learning Thou art all sublime.

**VERSE 2**
Hail Varsity of Nigeria, My Alma mater
**Refrain:** Hail her and rejoice for her lofty plans
The Varsity that is sited on soft green hills
**Refrain:** Hail her and rejoice for her beautys sake
Hail Varsity of our glory, the pride of our land
**Refrain:** Hail Her and rejoice for her light will shine
Hail Varsity par excellence our dreams come true
**Refrain:** Hail her and rejoice for the giant awakes
**All:** My Alma mater, My Alma mater Noble are thy looks and thy ideals And great art thou in Science and in Arts In other realms of learning Thou art all sublime. x2

# PROGRAMME OF EVENTS
## Fifth International Scientific Conference
## Faculty of Health Sciences and Technology (FHST)
## University of Nigeria, Enugu Campus

**Theme:** *Harnessing Emerging Technologies to Transform Health Sciences Education, Research, and Clinical Practice*

**Date:** Tuesday, 30th June – Wednesday, 1st July, 2026

### DAY ONE – Tuesday, 30th June, 2026

| Time | Activity | Facilitator(s) |
|---|---|---|
| 8:00 – 9:00 am | Registration of Participants | Registration Committee |
| | Opening Ceremonies | |
| 9:15 – 9:25 am | National Anthem, University Anthem & Opening Prayer | Master of Ceremonies (MC) |
| 9:25 – 9:35 am | Welcome Address | Dr. Eyiuche Ezigbo (LOC Chairman) |
| 9:45 – 10:00 am | Address by the Dean | Prof Charles I Ezema, Dean FHST |
| 10:00 – 10:15 am | Opening Remarks | Vice-Chancellor, University of Nigeria (or Representative) |
| 10:15 – 11:00 am | Keynote Lecture | Keynote Speaker |
| 11:15 – 11:45 am | Tea Break, Awards & Exhibition | Hospitality Committee |
| 11:45 am – 1:15 pm | Scientific Session I: Digital Health, Nursing & Health Systems | Session Chairpersons |
| 1:15 – 2:00 pm | Lunch | Hospitality Committee |
| 2:00 – 3:30 pm | Scientific Session II: Molecular Diagnostics, Laboratory Automation & Precision Medicine | Session Chairpersons |
| 3:30 – 4:30 pm | Poster Presentations & Technology Exhibition | Scientific Committee |
| 4:30 pm | End of Day One | LOC |

### DAY TWO – Wednesday, 1st July, 2026

| Time | Activity | Facilitator(s) |
|---|---|---|
| 8:30 – 9:00 am | Registration | Registration Committee |
| 9:45 – 11:00 am | Scientific Session III: AI Imaging & Rehabilitation Technologies | Session Chairpersons |
| 11:00 – 11:15 am | Tea Break | Hospitality Committee |
| 11:15 am – 12:45 pm | Parallel Oral Scientific Presentations | Session Chairpersons |
| 12:45 – 1:30 pm | Panel Discussion: Emerging Technologies in Health Sciences Education and Clinical Practice | Moderator & Panelists |
| 1:30 – 2:15 pm | Lunch | Hospitality Committee |
| 3:00 – 3:20 pm | Presentation of Conference Communiqué | Rapporteur-General |
| 3:20 – 3:40 pm | Presentation of Awards (Best Oral & Poster Presentations) | Dean & LOC Chairman |
| 3:55 – 4:00 pm | Vote of Thanks | Dr Ijeoma Ilo, Secretary Local Organizing Committee |
| 4:00 pm | Closing Prayer & Departure | MC |

**THE 5TH INTERNATIONAL SCIENTIFIC CONFERENCE OF FACULTY OF HEALTH SCIENCES AND TECHNOLOGY, COLLEGE OF MEDICINE, UNIVERSITY OF NIGERIA, ENUGU CAMPUS, IN COLLABORATION WITH THE ALUMNI OF THE FACULTY, 30TH JUNE AND 1ST JULY, 2026.**

**WELCOME ADDRESS BY THE DEAN, PROF. CHARLES I. EZEMA.**

The Vice-Chancellor, University of Nigeria

The Deputy Vice-Chancellor, University of Nigeria, Enugu Campus

The Provost, College of Medicine, University of Nigeria, Ituku Ozalla Campus

The Deputy Provost, College of Medicine, University of Nigeria, Ituku Ozalla Campus

The Dean of Faculties

The Head of Departments/Institutes

The Members of Council

The Guest Lecturers

The Alumni Members

Members of the Press

Distinguished Ladies and Gentlemen

Great Lions and Lionesses.

It is with great joy and happiness that I welcome you all to this 5th International Scientific Conference of the Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Enugu Campus, in collaboration with the Alumni of Faculty of Health Sciences and Technology. Since the inception of our great faculty in 1985/86 session this year's conference is 5th in the series. This conference is unique because it marks the successful completion of the tenure of my Deanship, that of the Associate Dean and some of the Head of Departments in our faculty, and also a ceremony for award of Honors to deserving staff and friends of the faculty by the Faculty Awards Committee made up of the faculty leadership, the conference Local Organizing Committee and the Faculty Building Committee.

To the awardees we sincerely appreciate you for all your philanthropic supports to our faculty, while wishing you more blessings of God for greater impact in the society. We sincerely thank the Vice-Chancellor Prof. Simon Uchenna Ortuanya for his great developmental and administrative impact in the University especially to our faculty. The VC has magnanimously approved the construction of our new faculty preclinical building at UNEC under direct labour by the Alumni and staff of the faculty and has promised to continue to support us towards the successful completion of the project. Within this short period of his Vice-Chancellorship

many of our deserving staff have received promotions and other welfare assistance such as sabbatical leave, extension of study leave and leave of absence. These magnanimous supports to our faculty are highly appreciated and we are highly indebted to you. The DVC Enugu Campus, the Provost and all other University management staff have been very supportive to our faculty especially on timely approval of the curricular of our departments and creation of new undergraduate programmes for Optometry and Health Administration and Management, while efforts are being made for the realization of the faculty status for Medical Laboratory Sciences and Nursing Sciences. This faculty creation if realized will help to secure more indexing (admission) quota for the two faculties.

This year's Conference Theme 'Harnessing Emerging Technologies to Transform Health Science Education, Research and Clinical Practice' is very timely considering the ongoing global technological developments especially in the health, educational and industrial sectors. These technological developments and current research studies require urgent publicity especially through conferences and the media for health and educational improvement within and outside the country. We have over 60 abstracts with great scientific information that will greatly impact on clinical and educational practices in the country and beyond.

Today, one of our accomplished and distinguished Alumnus Dr. Ihionu Marcellinus C., a successful Medical Laboratory Scientist will present the keynote speech for the conference titled 'Advances in Molecular Diagnostics and Laboratory Automation'. He has been very supportive to the Medical Laboratory Science Department and the Faculty in general. He has made great impact in his profession and health sector and has been providing employment and clinical training for many people. We sincerely appreciate him and pray that God will continue to bless him more abundantly. As we brainstorm during this conference on how to advance our health, educational and industrial sectors locally and globally, I wish us a successful conference.

I am very happy for the privilege to have contributed my quota with other staff for the progress and sustenance of the faculty conference. I was the pioneer LOC Chairman for 2022 when the conference was established under the Deanship of Prof. P. U. Achukwu, the Assoc. Dean and member of the LOC in 2023 and 2024 sessions under the Deanship of Prof. C.U. Eze, and currently Faculty Dean for 2024/2025 and 2025/2026 sessions. The last year's conference was very remarkable as it comprised of three programmes: the 4th international scientific programme, the 2nd Faculty Alumni homecoming and 2nd FHST Academic lecture. Within these five years period the faculty conference has gained a lot of national and international collaborations and patronage, while many staff have gained promotions through their participation in the conferences. To the incoming faculty leadership, I encourage you to advance the conference, the Alumni homecoming and Faculty Academic lecture for greater societal impact. The

faculty journal should be repositioned by the next faculty leadership for publications of most of the research studies presented during the faculty conferences and also from students' projects. The conference proceedings should also be published for greater visibility and impact.

I sincerely appreciate the Professors in the faculty, the Head of Departments, the Faculty officer, the associate Dean, Dr Ijeoma J. Ilo, the Faculty PG Rep who is also the LOC Chairman Dr. Eyiuche Ezigbo, PT Uduonu M. Ekezie, all the members of the LOC and every other staff and students of our faculty who have been very supportive and instrumental to the success of this conference and other great achievements we have made. May God continue to bless you all.

We are using this opportunity to appeal to all those willing to donate for our faculty building projects both at UNEC and Ituku Ozalla to do so. We are hopeful that a new faculty building for the clinical classes will be built at Ituku Ozalla for our faculty. This will alleviate the transportation challenges and risks of travelling by our students who travel daily by road from UNEC to Ituku Ozalla for their clinical postings. We are also appealing to the University leadership and Philanthropists to help us in the realization of this project. To other people who have consistently assisted our Faculty especially Dr. Ebubedike Vinmartins Ilo, the Chairman of Oji River L.G.A. Hon. Greg Anyaegbudike and others we immensely appreciate you, while praying that God Almighty will continue to bless and prosper you and your family more abundantly.

The Emeritus Prof Okafor's lecture series for the FHST through an endowment of the sum of 50 million naira to the College which commenced on 10th June, 2026 was another memorable event of my Deanship. It was the first faculty endowment, while the family is still planning to assist the faculty redesign and restructure the faculty Quadrangle which was originally designed by the Emeritus Prof. Okafor. We are very grateful to her and her family and also immensely appreciate the College leadership for the excellent coordination of the event,

To my family and friends who have been very supportive to me I greatly appreciate you for your supports, assistance and love.

I sincerely appreciate the Almighty God for His sustenance, protection, guidance and blessings to me and my colleagues through this period. These two years have been full of challenges, but the Lord Almighty graciously assisted us to surmount. all the hurdles.

# WELCOME ADDRESS BY THE CHAIRMAN, LOCAL ORGANIZING COMMITTEE

Distinguished guests, respected faculty members, esteemed alumni, keynote speakers, industry partners, students, colleagues, ladies and gentlemen,

On behalf of the Local Organizing Committee, it is my great honour and privilege to welcome you to the Fifth International Scientific Conference of the Faculty of Health Sciences and Technology (FHST), University of Nigeria, Enugu Campus.

This year's conference, themed "Harnessing Emerging Technologies to Transform Health Sciences Education, Research, and Clinical Practice," reflects one of the defining challenges and opportunities of our time. Across the world, rapid advances in artificial intelligence, molecular diagnostics, digital health, automation, precision medicine, data science, and telehealth are transforming how we educate future healthcare professionals, conduct research, deliver patient care, and strengthen health systems. As a faculty committed to excellence, innovation, and societal impact, we recognize that embracing these technologies is essential for preparing a workforce capable of meeting the evolving healthcare needs of the twenty-first century.

Our carefully selected sub-themes demonstrate the breadth of this transformation—from digital innovations in nursing education and patient-centred care, advances in molecular diagnostics and laboratory automation, AI-enhanced imaging, technology-assisted rehabilitation, and data-driven health systems management, to precision medicine and interdisciplinary collaboration across the health sciences. These discussions provide a unique opportunity for researchers, educators, clinicians, policymakers, industry leaders, and students to exchange ideas, showcase innovations, and build collaborations that will shape the future of healthcare in Nigeria and beyond.

We are particularly delighted to welcome our distinguished keynote speakers, invited guests, alumni, and participants from across disciplines and institutions. Your presence reflects our shared commitment to advancing knowledge through innovation, fostering multidisciplinary partnerships, and translating scientific discoveries into improved health outcomes. I sincerely appreciate the unwavering support of the University of Nigeria management, the Dean and leadership of the Faculty, the FHST Alumni Association, our sponsors, collaborators, invited speakers, and every member of the Local Organizing Committee whose dedication has made this conference possible.

As we embark on two days of scientific exchange, networking, and professional development, I encourage every participant to engage actively, explore new ideas, establish meaningful collaborations, and embrace the opportunities presented by emerging technologies to transform health sciences education, research, and clinical practice.

Once again, I warmly welcome you to the Fifth International Scientific Conference of the Faculty of Health Sciences and Technology. I wish you productive deliberations, enriching interactions, and an inspiring conference experience.

Thank you, and may God bless you all.

**Dr. Eyiuche Ezigbo**
**Chairman, Local Organizing Committee**

## KEYNOTE ADDRESS

# ADVANCES IN MOLECULAR DIAGNOSTICS AND LABORATORY AUTOMATION: HARNESSING TECHNOLOGY TO TRANSFORM HEALTH SCIENCE EDUCATION, RESEARCH, AND CLINICAL PRACTICE IN NIGERIA

**Ihionu M.C, KSJI, JP, Ph.D, FMLSCN, MNIM,**
**CEO. MCCHUKS MEDICAL DIAGNOSTIC CENTRE ENUGU.**
**LECTURER.**
**GODFREY OKOYE UNIVERSITY ENUGU.**

**CONFERENCE THEME:**

Harnessing Emerging Technologies to Transform Health Science Education, Research and Clinical Practice

**SUB-THEME:**

No. 2: Advances in Molecular Diagnostics and Laboratory Automation

**Background:** Nigeria's health system continues to face delays in diagnosis, high turnaround time TAT, and presumptive treatment due to reliance on conventional microscopy and culture. Molecular diagnostics and laboratory automation offer a paradigm shift from slow, manual, and error-prone processes to fast, precise, and data-driven healthcare delivery.

**Objective:** This paper examines key advances in molecular diagnostics and automation and proposes a framework for integrating them into Health Science Education, Research, and Clinical Practice in the Nigerian context.

**Methods/Approach:** A review and contextual analysis of emerging technologies including Real-Time PCR/qPCR, Multiplex PCR, LAMP, CRISPR-Dx, Next-Generation Sequencing NGS, Laboratory Robotics, and AI-LIS was conducted. The analysis focused on applicability to Nigeria's disease burden of TB, HIV, Malaria, AMR, and outbreak preparedness.

**Results/Discussion:** Advances in molecular diagnostics enable detection of <10 copies of pathogens within 2 hours, compared to 48 hours–6 weeks for culture, with higher sensitivity and specificity. Automation through pre-analytical, analytical, and post-analytical robotics reduces human error and increases throughput from 50 to 500+ tests/day. In education, virtual PCR simulators and bioinformatics training are essential. In research, NGS and automated platforms drive genomic surveillance and high-throughput drug screening. In clinical practice, POCT platforms like GeneXpert Omni and LAMP improve access in rural PHCs. Key

challenges include power instability, cost of reagents, and human capacity gaps. The proposed "Ihionu 4-Point Framework" of Hub-and-Spoke models, Frugal Innovation, Capacity Building, and PPP addresses these.

**Conclusion:** Molecular diagnostics and automation are no longer optional but essential to achieving the conference theme. For Nigeria to transform health outcomes, we must train students to be bilingual in "biology and technology", establish Centres of Excellence like FHST, and invest in automated molecular infrastructure.

**Keywords:** Molecular Diagnostics; qPCR; LAMP; CRISPR; Laboratory Automation; AI-LIS; Health Science Education; Nigeria

# BOOK OF ABSTRACTS

Date: 30th June – 1st July 2026

# NURSE EDUCATORS' PERSPECTIVE ON IMPLEMENTING COMPUTER-ASSISTED OBJECTIVE STRUCTURED CLINICAL EXAMINATIONS IN SELECTED NURSING INSTITUTIONS IN ENUGU STATE: A CROSS-SECTIONAL STUDY

**Authors:** Offu Chisom S.[1], Ihudiebube-Splendor, Chikaodili N.[1], Offu Ifeoma M.[1], Chikeme, Paulina C.[1], & Opara Hope C.[1]
**[1]Department of Nursing Sciences, University of Nigeria Nsukka, Enugu Campus**
***Corresponding author*: Ihudiebube-Splendor, C.N.**
***E-mail*: chikaodili.ihudiebube-splendor@unn.edu.ng**

## ABSTRACT

**Introduction**: The transition from traditional methods of clinical nursing assessment to computer-assisted objective structured clinical examinations (CAOSCEs) has gained momentum in nursing education globally. Despite their potential to enhance learning and assessment, their implementation remains fraught with challenges, particularly in resource-constrained settings like Nigeria.

**Objective:** To assess the nurse educators' perspective on implementing computer-assisted objective structured clinical examinations in selected nursing institutions in Enugu State.

**Methods:** The study adopted a cross-sectional descriptive design on sixty- five (65) nurse educators in selected nursing institutions in Enugu State. Data were collected using a validated researcher-developed questionnaire with reliability index of 0.84. Data obtained were analyzed using descriptive (frequency, percentage, mean and standard deviation) and inferential statistics (Pearson correlation) at 0.05 level of significance.

**Results:** Nurse educators' opinion towards adoption of CAOSCE was positive (91.8%). Major perceived advantages of implementing CAOSCE identified were: reduced administrative burden of printing exam papers (3.61±0.53); faster and more efficient grading of exams (3.59±0.50). Institutions' technological readiness to support the transition to CAOSCE was majorly that of availability of functional computer for assessment (3.16±0.75). Major perceived effect of CAOSCE in students' learning were: it encourages students to take a more active role in their learning process (3.10±0.77), and promotes active and critical thinking (3.00±0.71). Nurse educators' years of experience ($p = 0.263$) and educational level ($p = 0.782$) were not significantly related to their perspective in implementing CAOSCE.

**Conclusion:** Nurse educators' perspective towards adoption of CAOSCE was positive. Hence, recommends robust ICT infrastructure, including well-equipped computer laboratories, stable internet access, and simulation facilities in nursing education institutions.

**Key words:** Nurse educators, Perspectives, Computer-assisted objective structured clinical examination

# ASSOCIATION BETWEEN SOCIODEMOGRAPHIC AND INJURY FACTORS IN COMMUNITY REINTEGRATION FOLLOWING SCI: AN ANALYSIS OF TWO DATASETS

Joyce Mothabeng[1], **Chiedozie Eleje[2],** Martins Nweke[3],
Department of Medical Rehabilitation, College of Medicine, University of Nigeria, Enugu Campus
**Correspondence:** elejecu@dufuhs.edu.ng

## ABSTRACT

**Background:** Community reintegration after spinal cord injury (SCI) is influenced by personal and injury-related factors. However, data from two South African studies examining these associations have not been jointly analyzed.

**Objective:** To examine the association between sociodemographic and injury-related factors and community reintegration among people with spinal cord injury (PWSCI).

**Methods:** Secondary data analysis was conducted using two cross-sectional South African datasets comprising 182 PWSCI. The datasets met the predefined homogeneity criteria and were analyzed separately and as a pooled dataset. Community reintegration was measured using the Reintegration to Normal Living Index. Descriptive statistics were used to summarize participant characteristics, while Chi-square and Fisher's exact tests were applied to examine associations between explanatory variables and community reintegration outcomes.

**Results:** In the pooled analysis, better community reintegration was significantly associated with younger age (<55 years), female sex and employment ($p < 0.05$). Participants with thoracic and lumbar injuries showed higher levels of reintegration than those with cervical injuries, although this association was not statistically significant. Injury severity and etiology were not significantly associated with community reintegration.

**Conclusion:** Younger age, female sex, and favorable social circumstances, particularly employment, are associated with better community reintegration among PWSCI. These findings highlight the importance of considering the sociodemographic context and injury characteristics when planning rehabilitation and community-based support interventions.

**Clinical implications:** Early identification of older and unemployed PWSCI may help clinicians target individuals at a higher risk of poor community reintegration and guide tailored rehabilitation strategies.

**Keywords:** Spinal cord injury; community reintegration; sociodemographic factors; injury factors; Africa; cross-sectional studies; rehabilitation; secondary data analysis.

# IN VITRO EVALUATION OF POLYHERBAL COMBINATION OF THE ANTIMICROBIAL ACTIVITIES OF Ficus benjamina AND Ficus exasperata LEAF EXTRACT ON CLINICAL ISOLATE

Achukwu, Ngozika Obianuju, Udofot Emediong George, Mgbakogu Robison Amaechi
Department of Medical laboratory Sciences, Faculty of Health Sciences, University of Nigeria Enugu Campus
**Corresponding Author:** Robinson A. Mgbakogu

Email: mgbakogura@gmail.com 08033456014.

## ABSTRACT

**Introduction**: The continuous rise in antimicrobial resistance has resulted to seeking for alternative methods that are safe, effective, pocket-friendly, and readily available. A combination of *Ficus benjamina* and *Ficus exasperata*. A poly-herbal combination of *Ficus benjamina* and *Ficus exasperata* methanol leaf extract, which could serve as an alternative to synthetically produced antibiotics in the healthcare sector. This work aims to investigate the antimicrobial activity of *Ficus exasperata* and *Ficus benjamina* leaf extract on clinical isolates.

**Materials and Methods**: The leaves were collected, identified, and authenticated. They were washed in several changes of clean water, shade-dried until completely dry, and ground into a fine powder before extraction with methanol. The qualitative phytochemical screening was done to determine the phytochemicals present. The antibacterial activity was done by measuring the mean zone of inhibition diameter using the agar well diffusion method. The Minimum Inhibitory Concentration (MIC) and Minimum Bacteriocidal Concentration (MBC) As well as the FICI value of the poly-herbal combination was done using the checkerboard dilution assay.

**Result**: The findings reveal that both plants contain important phytochemicals The zone of inhibition diameter shows dose-concentration dependence between the leaf extract and the clinical isolates used with zones of inhibition diameter ranging between 26.00 - 39.00m. The MIC and MBC ranges between 3.125 -12.50mg/mL. Also, the poly-herbal combination is synergistic, with its FICI value being 0.15 - 0.37 for the clinical isolates used there, serving as a good combination for the treatment of infections caused by the isolates tested.

**Conclusion:** Poly-herbal combination of *Ficus exasperata* and *Ficus benjamina* ethanol leaf extracts shows synergism, therefore, holds promise as a potent, natural alternative to conventional antibiotics against various infectious diseases.

**Keywords:** *Ficus exasperata*, *Ficus benjamina*, ethanol, leaf extracts, Antimicrobial

# PHYTOCHEMICAL AND ANTIMICROBIAL ACTIVITY OF *Persea-americana* (AVOCADO) SEEDS ON SOME SELECTED CLINICAL ISOLATES

Achukwu, Ngozika Obianuju, Orjiezoke Mary Ezinne, Mgbakogu Robison Amaechi
Department of Medical laboratory Sciences, Faculty of Health Sciences, University of Nigeria Enugu Campus
**Correspondence:** mgbakogura@gmail.com

## ABSTRACT

**Introduction**: *Persea americana* (avocado) seeds are traditionally used in ethnomedicine, yet their phytochemical constituents and antimicrobial potential remain insufficiently characterized. This study evaluated the phytochemical constituents and antimicrobial activity of *Persea americana* (avocado) seed extract on some selected bacterial isolates.

**Material and Method:** A fresh avocado was bought, identified, and authenticated. The Fresh avocado seeds were washed in several changes of clean water, cut into smaller pieces, then shade dried till they are completely dried and ground into fine powder before extraction by cold maceration using 80% methanol and subjected to qualitative phytochemical screening. The antimicrobial activity of the extract was evaluated against selected clinical bacterial isolates, namely *Escherichia coli, Proteus mirabilis, Klebsiella pneumoniae,* and *Staphylococcus aureus*, using the agar well diffusion method. The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined by the broth dilution technique.

**Result**: The percentage yield of the extract was 32.70% (w/w). Phytochemical screening revealed the presence of saponins, tannins, flavonoids, alkaloids, and phenolic compounds. The extract exhibited concentration-dependent antimicrobial activity with zones of inhibition ranging from 20.00 to 33.00 mm at concentrations of 25–400 mg/mL. Higher inhibitory activity was observed against *Staphylococcus aureus* and *Proteus mirabilis*, while lower activity was recorded against Escherichia coli. The MIC values ranged from 12.50 to 25.00 mg/mL, whereas the MBC values ranged from 25.00 to 50.00 mg/mL. The antimicrobial activity of the extract was lower than that of ciprofloxacin, the reference drug.

**Conclusion:** *Persea americana* (avocado) seeds possesses antimicrobial activity giving scientific credence to the traditional usage and could serve as a potent alternative to conventional antibiotics.

**Keywords:** *Persea americana*, Methanol, Seed extract, Antimicrobial

# NURSES' KNOWLEDGE AND ATTITUDES REGARDING FAMILY PRESENCE DURING INVASIVE PROCEDURES IN TERTIARY HOSPITALS IN ENUGU, SOUTH EAST NIGERIA

**Ifeoma Ndubuisi[1], Amarachi G. Nwakuche[1] Chijioke O. Nwodoh[1] Nneoma G. Onyedire[2] Comfort O. Nwoke[1] Vera Osuagwu[3]**
Department of Nursing Sciences, University of Nigeria Enugu Campus[1]
Department of Psychology, University of Nigeria Nsukka Department of Psychology, University of Nigeria Nsukka[2]
College of Nursing Sciences University of Nigeria Teaching Hospital Enugu[3]
Correspondence: ifeoma.ndubuisi@unn.edu.ng

## ABSTRACT

**Background**: Family presence during invasive procedures (FPDIP) has evolved over the decades and remains a debated issue among healthcare professionals. However, concerns persist regarding compromised privacy, emotional distress, and disruption of procedures. This study examined nurses' knowledge and attitudes toward FPDIP and identified factors influencing their decisions.

**Methods**: This descriptive cross-sectional study was conducted among nurses at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu State. A total of 190 nurses working in units where invasive procedures are routinely performed were selected using proportionate stratified sampling. Data were collected using a researcher-developed 34-item questionnaire assessing socio-demographic characteristics, knowledge, attitudes, and factors influencing family presence during invasive procedures. Content validity was established through expert review, and a pilot test demonstrated good reliability (Spearman Brown Coefficient r = 0.851). Participation was voluntary, informed consent was obtained, and data were analyzed using descriptive and inferential statistics with SPSS/IBM Version 25.

**Results**: The mean age of respondents was 36.0 ± 8.5 years; most were female (70.0%) and married (54.7%). About one-third (33.2%) had 6–10 years of experience, and 73.2% held a B.Sc. degree. Overall knowledge of FPDIP was moderate (52.6%). High knowledge scores related to the meaning of FPDIP (68.4%) and perceived benefits (73.7%), while awareness of policy was lower (42.1%). Attitude toward FPDIP was predominantly negative (60.8%), mainly due to concerns about violation of patient privacy and dignity (mean 2.9 ± 0.8) and disruption of the healthcare team (2.8 ± 1.1). Key personal factors influencing decisions included patient preference (3.4 ± 1.1), nurses' empathy and compassion (3.3 ± 1.1), and past experiences (3.1 ± 1.1). Major institutional factors were limited procedure space (3.0 ± 1.1), need for training (2.9 ± 1.0), and absence of clear unit guidelines (2.8 ± 1.0).

**Conclusion**: Nurses demonstrated moderate knowledge but generally negative attitudes toward family presence during invasive procedures. These findings highlight the need for targeted training and clear institutional policies to promote appropriate family-centered invasive care.

**Keywords**: Family presence, invasive procedures, nursing attitudes, knowledge, family-centered care

# KNOWLEDGE AND ATTITUDE OF NURSING STUDENTS IN UNIVERSITY OF NIGERIA ENUGU CAMPUS TOWARDS THE USE OF TELEHEALTH.

Oguledo Jessica Chidera[1], Ubochi Nneka Edith[1]
[1]Department of Nursing, Faculty of Health Sciences and Technology. University of Enugu Campus.
**Correspondence:** Oguledojessica@gmail.com

## ABSTRACT

**Background:** Tele-health is a major trans-formative tool in modern healthcare, offering remote consultations, patient monitoring and health education in all regions yet there is limited information concerning it's awareness and understanding among nursing students who are the future frontline caregivers.

**Objectives:** This study assessed the knowledge and attitude of nursing students toward the use of tele-health.

**Methods:** A descriptive cross-sectional design was adopted, and data were collected from 268 nursing students selected from the total population of 811. Data were analyzed using SPSS version 25, applying both descriptive and inferential statistics, including the Chi-Square test at a 0.05 significance level.

**Results:** Findings revealed that 236(88.1%) demonstrated good knowledge of tele-health concepts, 172(64.2%) exhibited a positive attitude toward its adoption. Barriers included lack of training 210(78.36%), insufficient curriculum exposure 135(50.37%), and infrastructure challenges, particularly related to power supply 173(64.55%). There was no statistically significant relationship between knowledge and attitude ($p > 0.05$).

**Conclusion:** The study concludes that although UNEC nursing students possess good knowledge of tele-health, their readiness for practical application remains hindered by systemic and infrastructural constraints. Recommendations include integrating tele-health education into the curriculum, providing more hands-on training, and improving infrastructure to support tele-health practices.

**Keywords:** Tele-health, Nursing Students, Knowledge, Attitude, Adoption, Barriers.

# KNOWLEDGE, ATTITUDE AND PERCEIVED BARRIERS TOWARDS THE USE OF ELECTRONIC MEDICAL RECORDS AMONG NURSES IN UNIVERSITY OF NIGERIA TEACHING HOSPITAL(UNTH).

Asika Genevieve Obianuju[1] Ubochi Nneka Edith[2]
[1]Department of Nursing, Faculty of Health Sciences and Technology. University of Enugu Campus.
**Correspondence:** asikaobianuju62@gmail.com

## ABSTRACT

**Background:** Electronic Medical Records have fundamentally transformed healthcare delivery systems worldwide, yet significant variations exist in how nurses perceive, accept, and utilize these technologies in clinical practice. Understanding nurses' knowledge, attitudes, and barriers toward Electronic Medical Records is crucial for healthcare organizations seeking to maximize health information technology benefits.

**Objectives:** The study examined the knowledge, attitudes and barriers towards the use of electronic medical records among nurses in University of Nigeria Teaching Hospital.

**Methods:** A descriptive cross-sectional research design was adopted for this study. A sample size of 248 UNTH nurses was selected using convenient sampling. Researcher-structured questionnaire was used in data collection and analysed using descriptive and inferential statistics.

**Results:** The findings showed that 180(72.6%) of nurses had good EMR knowledge and 176(71.0%) showed a generally positive attitude toward its use with overall mean of 2.73. Organizational barriers particularly insufficient staffing 208(83.8%), time constraints 198(79.8%), and poor internet connectivity 185(74.6%) were the most significant obstacles (mean = 2.95), whereas individual barriers were least significant (mean = 1.94). There is a significant positive correlations between nurse rank and EMR knowledge ($p = 0.001$) and between EMR knowledge and attitude ($p < 0.001$).

**Conclusion:** Nurses at UNTH demonstrate satisfactory knowledge and positive attitudes towards Electronic Medical Records, although organizational and technical barriers significantly impede optimal utilization. Addressing these systemic obstacles through comprehensive training programs, and enhanced organizational support represents essential strategies for promoting effective EMR adoption.

**Keywords:** Electronic Medical Records, Knowledge, Attitudes, Barriers, UNTH Nurses.

# HISTOPATHOLOGICAL EVALUATION OF OVARY TISSUES OF ALBINO RATS EXPOSED TO PHOSTOXIN TABLETS

**Esther Ifeyinwa Etu[1], Peter Uwadiegwu Achukwu[2], Nkiruka Azubuike[2], Anulika Onyemelukwe[2], Cornelius Ogu[2]**

[1]Department of Anatomic Pathology, Alex Ekwueme Federal University, Ndufu Alike, Ebonyi State., [2]Department of Medical Laboratory Sciences, University of Nigeria, Enugu campus

**Correspondence:** etuesther@gmail.com

## ABSTRACT

**Introduction**: This study investigated the histopathological effects of phostoxin (aluminium phosphide) on the ovary of albino rats. The aim was to describe the nature and pattern of ovarian tissue alterations following exposure to phosphine gas generated from phostoxin, with emphasis on evidence of oxidative-related injury.

**Materials and Methods:** Forty rats of equisex distributions of 10 rats were used and divided into four groups. Group 1 served as control and were not exposed to phostoxin. Group 2 was exposed to phostoxin for 30days, group 3 animals were exposed to the drug for 60 days while group 4 were exposed to the same drug for 30 days, thereafter, 1.0mg of Vitamin C was administered concomitantly, daily with phostoxin for another 30 days.

**Results:** The results revealed that exposure to phostoxin produced observable histopathological changes in the ovary when compared with the control group. The severity of ovarian lesions increased with higher doses of phostoxin exposure. Exposure to phosphine gas generated from phostoxin induces significant histopathological alterations in the ovarian tissue of albino rats.

**Conclusion:** These findings suggest that the ovary is a potential target organ of phosphine toxicity and highlight the need for further attention to female reproductive risk associated with aluminum phosphide exposure.

**Key words**: Phostoxin, Ovary, Vitamin C, histopathological.

# BALANCE, FUNCTIONAL MOBILITY, MUSCLE STRENGTH AND FALL AMONG OLDER ADULTS IN ENUGU METROPOLIS

**Mgbeojedo Ukamaka Gloria, Nwokporo Maduabuchi Ezekiel, John Jeneviv Nene, Okezue Obinna Chinedu, Nwosu Akachukwu Omumuagwula, Nwazuluoke Ebube Chimdi**

Affiliations: University of Nigeria, Enugu Campus
Correspondence: amakamgbeojedo@yahoo.com

## ABSTRACT

**Background:** With advancing age, older adults are vulnerable to declines in muscle strength, balance, functional mobility and consequently resultant falls.

**Objectives:** This study aimed to assess the relationship between balance, functional mobility, muscle strength, and falls among older adults in Enugu Metropolis.

**Methodology:** Primary data were collected through a cross-sectional survey, using the Timed Up and Go (TUG) test to assess functional mobility, Chair Stand test to evaluate muscle strength and Berg balance scale to assess balance. Data were analyzed using descriptive statistics of frequency, percentage, mean, standard deviation, Spearman's correlation coefficient, Kruskal-Wallis H tests at $p<0.05$ level of significance.

**Results:** Among 150 older adult participants, 71.3% were married, 58.7% were male, and 42.7% attained tertiary education. 35.3% and 32% of participants respectively reported poorer functional mobility and muscle strength; while 38.7% reported having experienced falls. Significant relationships were found between fall and each of balance (rho = 0.455, $p < 0.001$), functional mobility (rho = –0.331, $p < 0.01$), and muscle strength (rho = –0.326, $p < 0.01$). Also, strong interrelationships were observed among balance, functional mobility, and muscle strength (rho = 0.739, 0.721, and 0.911, respectively; all $p < 0.001$). Socio-demographic factors, particularly age, marital status, and occupation, significantly influenced physical function and fall risk, emphasizing the need for targeted interventions to promote healthy ageing and reduce falls in this population.

**Conclusion:** The study highlights the need for community-based programs that promote physical activity and fall prevention, with tailored strategies for different socio-demographic groups.

**Keywords**: Balance, Functional mobility, Muscle strength, Fall, Older adults

# HISTOLOGIC EFFECT OF *Borreria ocymoides* LEAF EXTRACT ON CARBON TETRACHLORIDE INDUCED LIVER INJURY IN ALBINO RATS

Onyemaechi Chinetam Prisca
Department of Medical Laboratory Sciences, Faculty of Health Science and Technology, University of Nigeria, Enugu Campus

**Correspondence:** priscaonyemaechi26@gmail.com

## ABSTRACT

**Introduction:** The liver is highly susceptible to injury from xenobiotics such as carbon tetrachloride ($CCl_4$), which induces oxidative stress and hepatocellular damage. *Borreria ocymoides* (Rubiaceae) is a tropical herb traditionally utilized in phytomedicine for diverse therapeutic properties, ranging from treating sickle cell anemia and toothaches to managing jaundice, with flavonoid-rich extracts providing significant anti-inflammatory and hepatoprotective potential. A primary mechanism of $CCl_4$-induced liver damage involves intense lipid peroxidation and depletion of antioxidant enzymes. This study aims to evaluate the histologic and biochemical effects of *B. ocymoides* aqueous extract on $CCl_4$-induced liver injury in albino rats.

**Materials and Methods:** Aerial parts of *B. ocymoides* were processed into an aqueous extract via maceration and concentration at 60°C. Twenty male albino rats, acclimatized per international ethical guidelines, were randomized into four groups (n=5): saline control, two AE treatment groups (500 and 1000 mg/kg), and a baseline control. Hepatic injury was induced via subcutaneous $CCl_4$ injection after seven days of oral AE administration. Liver enzymes (ALT, AST, ALP), albumin, and prothrombin time were assessed biochemically, and liver tissues were subjected to H&E histopathology and qualitative phytochemical screening.

**Result:** $CCl_4$ administration significantly elevated liver enzymes (ALT, AST, ALP) and reduced serum albumin compared to baseline ($p < 0.001$). Pre-treatment with AEBO demonstrated dose-dependent hepatoprotection, with the 1000 mg/kg dose most effectively limiting enzyme leakage and preserving synthetic capacity, including prothrombin time and albumin levels. Histopathological findings confirmed reduced sinusoidal congestion, hepatocyte ballooning, vacuolation, and necrosis in treated groups relative to the positive control. **CONCLUSION:** The aqueous extract of *Borreria ocymoides* exhibits significant hepatoprotective activity against $CCl_4$-induced liver damage through antioxidant phytochemicals that inhibit free radical generation, validating its ethnomedicinal use. Future studies should isolate specific bioactive compounds and conduct chronic toxicity profiling to establish definitive safety limits.

**Keywords:** *Borreria ocymoides,* Hepatoprotective activity, Carbon tetrachloride ($CCl_4$), Oxidative stress

# EFFECT OF AQUEOUS ROOT EXTRACT OF *Allium Sativum* (GARLIC) ON THE LIVER TISSUE OF ALBINO RATS

Nwekeanaekwe Stanley Uzochukwu
Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, University of Nigeria Enugu Campus.
**Correspondence:** nwekeanaekweuzochukwu@gmail.com

## ABSTRACT

**Introduction:** *Allium sativum* (garlic) is widely known for its medicinal, antimicrobial, and therapeutic properties, making it commonly used in traditional medicine. Despite these benefits, excessive or prolonged consumption may produce toxic effects on body tissues and organs. This study aims to evaluate the effect of aqueous extract of *Allium sativum* on the liver tissue of albino rats and to assess its toxicological implications at varying doses.

**Materials and Methods:** Twelve (12) adult albino rats weighing 100–300 g were used for the study. The rats were obtained from a commercial breeder in Enugu State and acclimatized under standard laboratory conditions. Garlic bulbs were purchased locally, authenticated, and prepared using the decoction method to obtain the aqueous extract. The animals were randomly divided into three groups of four rats each and administered varying doses orally. Body weight, mortality, and $LD_{50}$ were assessed. Histological examination of liver tissues was carried out using hematoxylin and eosin (H&E) staining, while statistical analysis was done using mean ± standard deviation and Student's t-test at 5% significance.

**Result:** Lower doses of *Allium sativum* extract showed no obvious adverse histological effect on the liver, with preserved hepatocytes, central veins, and sinusoids. However, higher doses (1000 mg/kg, 2000 mg/kg, and 3000 mg/kg) caused significant weight reduction and toxic effects, with mortality recorded at 3000 mg/kg. Histological findings at the highest dose showed heavily sclerotic central veins, cytoplasmic erosion, and defective nuclei, indicating severe hepatocellular damage.

**Conclusion:** Aqueous extract of *Allium sativum* appears relatively safe at lower doses but exhibits dose-dependent hepatotoxic and histopathological effects at higher doses. Therefore, excessive consumption should be approached with caution.

**Keywords:** *Allium sativum*, garlic, liver tissue, albino rats, aqueous extract, hepatotoxicity, $LD_{50}$.

# STUDENTS' PERCEPTION OF BIOMETRIC ATTENDANCE REGISTRATION IN THE RADIOGRAPHY DEPARTMENT, UNIVERSITY OF NIGERIA: CHALLENGES, DRAWBACKS, AND SOLUTIONS.

Agbo, J.A[1], Abonyi, E.O[1], Onwuzu, SWI[1], Maduka B.U[1]
[1]Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus
Correspondence: julius.agbo@unn.edu.ng.

## ABSTRACT

**Background:** Biometric attendance systems use unique biological traits such as fingerprints or facial recognition to record presence, offering a secure and reliable alternative to manual attendance methods. In the Radiography Department of the University of Nigeria, Enugu Campus, this system was introduced to address absenteeism, impersonation, and loss of attendance records.

**Objectives:** This study assessed students' perception of biometric attendance registration, focusing on awareness, challenges and drawbacks, and proposed solutions for improving system effectiveness.

**Methods:** A cross-sectional quantitative descriptive survey was conducted among 200–500 level undergraduate radiography students (mean age 22.8 ± 3.10 years; 54.5% females). A structured questionnaire assessing awareness, challenges, and proposed improvements was used. The instrument demonstrated good reliability (Cronbach's $\alpha = 0.83$). Using stratified sampling, 835 students participated: 210 (200 level), 195 (300 level), 220 (400 level), and 210 (500 level). Ethical approval was obtained, and participation was voluntary.

**Results:** The majority of students demonstrated moderate awareness of the biometric system (mean = 2.98 ± 0.86) and perceived it as effective in improving accountability. Moderate challenges were reported (mean = 2.93 ± 0.83), including overcrowding, absence of backup systems, disorganization, and inconsistent power supply. Proposed solutions showed moderate agreement (mean = 3.09 ± 0.84), including increasing devices, regular maintenance, and reliable power supply. A statistically significant difference existed in perception and awareness across student levels ($p < 0.05$), while no significant difference was observed in reported challenges, drawbacks, or suggested solutions ($p > 0.05$).

**Conclusion:** Biometric attendance registration is widely accepted and enhances attendance monitoring; however, operational and infrastructural limitations reduce its efficiency. Addressing these challenges through improved system capacity, maintenance, and reliable power supply is essential for optimizing performance and user satisfaction.

**Keywords:** Biometric attendance; Students' perception; Radiography education; Attendance management; System challenges; Nigeria

# EMOTIONAL INTELLIGENCE, PSYCHOLOGICAL EMPOWERMENT AND QUALITY OF PATIENT CARE AMONG NURSING STUDENTS: A DESCRIPTIVE CORRELATIONAL STUDY

[a]Madu Obiageli.T[1] Omotola Ngozi.J[1] Anagor Chiamaka R[1], Chinkata C
[1]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria Enugu Campus.
[a]***Correspondence:*** obiageli.madu@unn.edu.ng

## ABSTRACT

**Background:** Emotional Intelligence has been recognized as a crucial factor in nursing practice, influencing various aspects of patient care, psychological empowerment (PE) and nurses' well-being. Despite its growing global interest, empirical evidence examining the interplay between EI, psychological empowerment, and care quality among nursing students in developing countries remains limited. Therefore, this study aimed to examine the perceived effects of emotional intelligence on psychological empowerment and quality of patient care among undergraduate nursing students.

**Methods:** A descriptive cross-sectional correlational design was employed among 219 undergraduate nursing students selected through stratified random sampling. Data were collected using standardized self-report instruments measuring emotional intelligence, psychological empowerment, and perceived quality of patient care. Descriptive statistics, Pearson correlation, and analysis was conducted to determine relationships among variables, with significance set at $p < 0.05$.

**Results:** Findings indicated that nursing students demonstrated moderate to high levels of emotional intelligence and psychological empowerment. Emotional intelligence showed a significant positive correlation with psychological empowerment ($r = 0.543$, $p < 0.001$) and perceived quality of patient care ($r = 0.332$, $p < 0.001$).

**Conclusion:** Emotional intelligence significantly enhances psychological empowerment and perceived quality of patient care among nursing students. Students with higher EI are more likely to feel competent, autonomous, and impactful in clinical settings, which translates into improved care delivery. Educational strategies such as simulation-based learning, reflective practice, and mentorship programs are recommended in nursing curricula to cultivate EI competencies in nursing students.

**Keywords:** Emotional Intelligence; Psychological Empowerment; Patient Care Quality; Nursing Students.

# KNOWLEDGE, ATTITUDE AND HOME MANAGEMENT PRACTICES OF CAREGIVERS OF UNDER-FIVES WITH DIARRHEA IN SELECTED PRIMARY HEALTHCARE CENTRES IN ENUGU NORTH: A CROSS-SECTIONAL STUDY

**Authors:** Ihudiebube-Splendor, Chikaodili N. [1], Ilobi, Monica C.[1], Israel, Chidinma E.[1], & Chukwu Ezinwanne[1]
[1]Department of Nursing Sciences, University of Nigeria Nsukka, Enugu Campus
***Correspondence:*** **chikaodili.ihudiebube-splendor@unn.edu.ng**

## ABSTRACT

**Introduction:** Diarrhea remains a leading cause of morbidity and mortality among children under five years of age, contributing to approximately 16% of under-five deaths in Nigeria. The primary healthcare facilities frequently receive children with diarrhea, who present with dehydration due to inadequate home-based care, reflecting persistent gaps in caregivers' knowledge, and management practices. This study aimed to assess the knowledge, attitude and home management practices of caregivers of under-fives with diarrhea and factors influencing their practices in selected primary healthcare centres (PHC) in Enugu North.

**Materials and Methods:** A cross-sectional descriptive design was employed. Using a multistage sampling technique, 330 caregivers were purposively recruited from four selected PHCs. Data were collected using a validated researcher-developed questionnaire with reliability index of 0.79. Data obtained were analyzed using descriptive statistics of frequency, percentage, mean and standard deviation and inferential statistics of Chi-square and Pearson's correlation to test the hypotheses at less than 0.05 level of significance.

**Results:** Less than half (40.0%) of caregivers had adequate knowledge of diarrhea management. Majority (64.8%) had positive attitudes, yet 60.0% engaged in suboptimal practices. Major factors that influenced their practices were: level of education (3.38 ± 0.79), household income (3.34 ± 0.81) and access to oral rehydration solution (ORS), zinc (3.32 ± 0.81). A significant positive correlation existed between knowledge and practice ($r = 0.412$, $p < 0.001$).

**Conclusion:** Majority of caregivers had inadequate knowledge of diarrhea management; though their attitude was positive but home management practices were suboptimal. Level of education, access to ORS, zinc tablets, other resources and household income affected their home management practices. Hence, healthcare providers should intensify practical, culturally sensitive caregiver education at primary healthcare contact points, ensure consistent availability of oral rehydration salt and zinc tablets, and strengthen antibiotic stewardship to reduce preventable under-five diarrheal morbidity and mortality.

**Key words:** Caregivers, Knowledge, Attitude, Home management practices, Under-fives

# PREGNANCY-RELATED WEIGHT STIGMA, WEIGHT BIAS INTERNALIZATION AND PSYCHOLOGICAL WELL-BEING AMONG PREGNANT WOMEN PREGNANT WOMEN IN A FACILITY IN ENUGU, NIGERIA: A CROSS-SECTIONAL STUDY

Israel, Chidinma Egbichi[1]; Otti, Victoria Chiemerie[1]; Arinze Joyce Chinenye[1]; Agu Ifeyinwa Stephina[2]; Iheanacho Peace Njideka[1]; & Nwosa, Adaeze Chinenye[3]

1. Department of Nursing Sciences, University of Nigeria, Enugu Campus, Enugu
2. Department of Nursing Sciences, Abia State University, Uturu, Abia State
3. Department of Nursing Sciences, Alex Ekwueme Federal University, Ndufu Alike, Ikwo, Ebonyi State

**Correspondence: Chidinma.ogbonnaya@unn.edu.ng.**

## ABSTRACT

**Background:** Gestational weight gain, a physiological nom, may precipitate stigma; linked to decreased healthcare quality, body image dissatisfaction and psychological distress. This study assessed pregnancy-related weight stigma, weight internalization bias, and psychological well-being among pregnant women.

**Methods:** The Cross-sectional survey was employed at Uwani General Hospital, Enugu, Nigeria among 197 pregnant women recruited in their 2nd (33.5%) and 3rd (66.5%) trimesters. Mean scores for weight internalization bias, weight stigma and psychological wellbeing were obtained for each respondent. Pearson correlation and linear multiple regression test were used to test the hypothesis at 5% level of significance.

**Results:** The prevalence of pregnancy-related weight stigma and weight internalization bias was 1.0%. and 6.2% respectively. The majority of women had healthy psychological well-being (78.4%), while 21.6% had psychological distress. Socio-demographic and pregnancy-related characteristics did not predict pregnancy-related weight stigma ($p = .319$); and weight internalization bias ($p = .374$). Psychological well-being was higher among women in the 2nd trimester than those in the 3rd trimester ($p = .014$). There was a significant positive relationship between pregnancy related weight stigma and weight bias internalization ($p < .001$); between pregnancy-related weight stigma and psychological distress ($p < .001$); and between pregnancy related weight bias and psychological distress ($p < .001$.

**Conclusion**: Pregnancy-related weight stigma and internalized weight bias, although relatively low in prevalence, had psychological impacts on respondents

# THE ROLE OF PUBLIC HEALTH NURSES IN COMMUNITY-BASED NON-COMMUNICABLE DISEASE MANAGEMENT: A SYSTEMATIC REVIEW OF EFFECTIVENESS, CHALLENGES AND POLICY IMPLICATION

AKAMUNE SPEE-DEE JOFUOMA
*Africa Centre of Excellence in Public Health and Toxicological Research,*
University of Port Harcourt.
Correspondence: akamune_jofuoma@uniport.edu.ng

## ABSTRACT

**Background**: Non-Communicable Diseases (NCDs) such as hypertension, diabetes, cardiovascular diseases, and cancer are a growing public health concern in Nigeria, contributing significantly to morbidity and mortality. Despite the critical role public health nurses (PHNs) play in community-based health promotion and disease prevention, their inclusion in NCD prevention and management strategies remains limited, particularly in Delta State. Recognizing the increasing NCD burden and the need for coordinated responses, there is a compelling need to assess the extent of PHN involvement and inform the development of a plan to optimize their roles in NCD care.

**Objectives**: This systematic review aimed to examine existing literature on the roles, inclusion, and contributions of public health nurses in the prevention and management of NCDs. It also sought to identify barriers and enablers to their effective engagement and to inform the design of a context-specific plan for Delta State, Nigeria.

**Methods**: A systematic search was conducted across five major databases: PubMed, Google Scholar, CINAHL, Scopus, and the African Journals Online (AJOJ) for studies published between 2020 and 2025. Keywords and Boolean operators such as "public health nurses", "non-communicable diseases", "NCD prevention", "NCD management", and "Nigeria" were used. Titles and abstracts were screened based on predetermined eligibility criteria. Full-text articles were assessed for relevance and methodological quality using the Critical Appraisal Skills Programme (CASP) and the Mixed Methods Appraisal Tool (MMAT). Data were extracted and synthesized thematically to identify patterns, key findings, and gaps relevant to the strategic development of PHN roles in NCD control.

**Result**: The review found PHNs face training, resource, and policy gaps but demonstrated effectiveness in community engagement, highlighting the need for empowerment, integration, and policy inclusion to strengthen NCD management in Delta State.

**Keywords**: Public Health Nurses, Non-Communicable Diseases, Planning, Delta State, Health Systems

# SERUM VITAMIN D LEVELS OF HYPERTENSIVES AT THE UNIVERSITY OF NIGERIA TEACHING HOSPITAL, ITUKU-OZALLA, ENUGU STATE, SOUTHEAST, NIGERIA.

Okonkwo Innocent N.[1], Okafor Edwin N.[1], Anyatonwu Bertram C..[1], Eze Daniel E.[1], Okpagu Blessing C.[1]
[1]Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria Enugu Campus.
**Correspondence: innocent.okonkwo@unn.edu.ng.**

## ABSTRACT

**Introduction**: Hypertension remains a significant public health concern and is a major contributor to cardiovascular disease–related illness and death globally. Increasing evidence indicates that vitamin D levels may be involved in the pathogenesis of hypertension; however, results across different populations have been inconsistent. This study was therefore carried out to evaluate the serum vitamin D levels of hypertensives at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria.

**Materials and Methods:** One hundred and thirty-three (133) age and sex-matched subjects, consisting 70 hypertensives (cases) and 63 apparently healthy normotensives (controls), aged 29 to 78 years participated in the study conducted between June to December 2025. A well-structured questionnaire was used to capture the bio-data and other vital information, blood pressures (BP) and anthropometric measurements were taken, and blood samples were collected from the participants and serum vitamin D levels measured using enzyme linked immunosorbent assay. Data were analysed using Student's T-test, one-way Analysis of Variance, and Spearman's rho correlation. P-value $< 0.05$ was considered statistically significant.

**Results:** Our findings revealed that serum vitamin D levels were markedly lower among hypertensives ($p < 0.05$); ($29.15 \pm 5.44$ ng/ml) when compared to controls ($32.35 \pm 4.07$ ng/ml). Additionally, serum vitamin D levels showed a significant variation with the duration of hypertension ($p < 0.05$) but no significant difference in serum vitamin D levels was observed in hypertensives on antihypertensive drug and those not on the drug ($p > 0.05$). Correlation of vitamin D with systolic BP and diastolic BP showed a significant inverse correlation ($r = -0.331$; $p < 0.05$). and ($r = -0.372$; $p < 0.05$) respectively, while no significant correlation was observed between serum vitamin D and pulse rate ($p > 0.05$).

**Conclusion:** These results suggest a link between vitamin D deficiency and hypertension and underscore the need for a routine vitamin D evaluation in individuals with hypertension.

**Keywords:** Hypertension. Vitamin D. Blood pressure. University of Nigeria Teaching Hospital. Ituku-Ozalla

# KNOWLEDGE, PERCEPTION, AND WILLINGNESS TO USE VIRTUAL REALITY FOR NURSING EDUCATION AND TRAINING AMONG NURSING STUDENTS AT THE UNIVERSITY OF NIGERIA, ENUGU CAMPUS

Omotola Ngozi J[1], Nwachukwu Blessing Oluwatosin[1], Madu Obiageli T[1], Opara Hope C[1] & Israel Chidinma E[1]

Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus

[a]***Correspondence:*** ***ngozi.omotola@unn.edu.ng***

## ABSTRACT

**Introduction**: Virtual reality (VR) is highly beneficial for clinical education, offering immersive simulations of medical procedures and patient interactions. However, it has yet to be integrated into nursing curricula at Nigerian institutions, possibly due to limited familiarity with this technology. This study aimed to assess nursing students' knowledge, perceptions, and willingness to use virtual reality for nursing education and training at the University of Nigeria, Enugu Campus.

**Materials and Methods:** This cross-sectional descriptive study surveyed 242 eligible nursing students at UNEC. A researcher-designed, validated questionnaire with Cronbach's alpha coefficient of 0.72 was used for data collection. Knowledge of virtual reality was assessed using multiple-choice questions, with a score of ≥5 out of 10 considered indicative of good knowledge. Perception and willingness to use virtual reality were assessed using a 4-point Likert scale, with mean scores ≥ 2.5 indicating positive perception and willingness, respectively. Pearson correlation analysis was used to determine the relationship between perception and willingness to use VR. The P-value was set at $p<0.05$.

**Result**: The overall level of knowledge was good (59.9*%),* perception of VR use was positive (2.89 ± 0.93), and the willingness to use VR was high (3.05 ± 0.84). There was a statistically significant relationship between students' perceptions and willingness to use virtual reality, $r(240) = 0.50$, $p < 0.001$.

**Conclusion**: The study revealed positive perceptions and a willingness to use VR, which may be associated with respondents' levels of VR knowledge. Therefore, nursing educational institutions in Nigeria should work towards introducing VR into their curricula, providing basic lessons and hands-on sessions on how VR works and its applications in nursing.

**Keywords:** virtual reality, nursing education, knowledge, perception, willingness

# SITE-SPECIFIC AGREEMENT BETWEEN KILOVOLTAGE PLANAR IMAGING AND CONE BEAM COMPUTED TOMOGRAPHY FOR PATIENT SETUP VERIFICATION IN IMAGE-GUIDED RADIOTHERAPY

**Shuaibu A[1,2],** Eze CU[2], Anakwue AC[2], Abonyi OE[2], Onwuzu SW [2,]Usoro IE[2,3], Mohammed I[1], Umaru A[1]

1. Department of Medical Radiography, Faculty of Allied Health Sciences, College of Medical Sciences, Ahmadu Bello University Zaria.
2. Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
3. Department of Medical Radiography and Radiation Sciences, College of Medicine. Lead City University. Ibadan, Nigeria.

Correspondence: abdullahishuaibu@abu.edu.ng

## ABSTRACT

**Background:** Cone beam computed tomography (CBCT) is the primary verification modality in image-guided radiotherapy (IGRT), but its radiation burden and resource demands have renewed interest in kilovoltage (kV) planar imaging as a lower-dose alternative. Quantifying their setup agreement across anatomical sites is critical before any substitution can be clinically justified.

**Objective:** To assess site-specific agreement between kV planar imaging and CBCT couch-shift corrections across four treatment sites in IGRT.

**Methods:** Thirty-nine patients undergoing radiotherapy at the University of Nigeria Teaching Hospital were enrolled across four treatment sites: breast, head and neck, spine, and pelvis. Paired kV and CBCT acquisitions were obtained on fractions 1 and 6 of each course. Agreement was evaluated using paired t-tests, Bland-Altman analysis, and tolerance pass rates at ≤3 mm, ≤2 mm, and ≤1 mm thresholds.

**Results:** Spine demonstrated the strongest agreement, with 100% of patient-courses within ≤3 mm across all axes and a non-significant 3D mean difference of 0.95 mm (p =0.099). Head and neck achieved 80-100% agreement at ≤3 mm (3D difference 0.4 mm, p =0.584), though the longitudinal axis showed a significant discrepancy of 2.0 mm (p =0.002). Breast agreement ranged from 67-89% at ≤3 mm, with significant vertical and lateral axis differences (p=0.047 and p =0.011, respectively). Pelvis showed the weakest agreement (50-70%), with a statistically and clinically significant 3D mean difference of 3.8 mm (p=0.002).

**Conclusion:** kV planar imaging closely approximates CBCT-derived corrections in rigid bony anatomical regions such as the spine and, largely, the head and neck. Agreement in the pelvis is insufficient for routine substitution, where soft-tissue variability and organ motion undermine the reliability of bony surrogates for planar registration.

# BACTERIAL AGENTS OF ACUTE OTITIS MEDIA AND THEIR EMERGING ANTIBIOTIC RESISTANCE PROFILES IN A NIGERIAN TEACHING HOSPITAL.

**Samuel Onuzulike Ebede, [1, 2] Emeribe Shedrack Chikezie [1, 2] and Ifeoma Ogonnaya Ijere[2]**
1.Department of Medical Microbiology, Faculty of Basic Clinical Sciences, College of Medicine, University of Nigeria, Ituku-Ozalla Campus, Enugu, Nigeria.
2. Department of Microbiology, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria.

*__Correspondence__: Samuel.ebede@unn.edu.ng

ORCID Number: 0009-0002-4705-3962

## ABSTRACT

**Background:** Acute otitis media (AOM) is a significant global cause of avoidable hearing loss, particularly in children under five. Rising antimicrobial resistance necessitates the continuous monitoring of local bacterial profiles to guide effective treatment.

**Objective:** To identify the bacterial agents causing AOM and determine their antibiotic susceptibility profiles at the University of Nigeria Teaching Hospital (UNTH), Enugu.

**Methods:** This hospital-based study approved by the Health Research and Ethics Committee of the UNTH, Enugu, analyzed 300 patient samples collected between January 2022 and December 2025. Bacterial isolates were identified using conventional microbiological techniques. Antimicrobial susceptibility was determined via the modified Kirby-Bauer disc diffusion method and interpreted according to Clinical Laboratory Standard Institute guidelines.

**Results:** Bacterial growth was recorded in 41.0% (122/300) of suspected cases. The most prevalent isolates were *Streptococcus pneumoniae* (31.4%), *Staphylococcus aureus* (25.3%), *Pseudomonas aeruginosa* (21.4%), and *Haemophilus influenzae* (13.4%), with lower frequencies of *Proteus* species (6.1%) and *Moraxella catarrhalis* (2.4%). Isolates exhibited 100% resistance to cloxacillin and erythromycin, and high resistance to penicillin (80%) and ceftazidime (57.5%). Notably, *S. aureus* showed high resistance to penicillin/erythromycin, while *P. aeruginosa* was resistant to ceftazidime. Conversely, there was 100% susceptibility to amikacin, levofloxacin, and amoxicillin-clavulanate.

**Conclusion:** The high prevalence of resistant strains to commonly used antibiotics underscores the need for targeted therapy based on local susceptibility patterns specifically favoring amoxicillin-clavulanate or fluoroquinolones – combined with robust antibiotic stewardship and continued antibiotic resistance surveillance is potentially imperative for effective management of AOM in the UNTH.

**Keywords**: Acute Otitis Media, Bacterial Pathogens, Antibiotic Resistance, *Pseudomonas aeruginosa*, Antibiotic Susceptibility, UNTH Enugu.

# EVALUATING RADIOGRAPHIC PATTERNS OF MUSCULOSKELETAL INJURIES AT UNIVERSITY OF NIGERIA TEACHING HOSPITAL (UNTH)

***Nwogu Uloma B.[1], Abonyi Obinna E.[1], Agbo Julius A.[1], Onwuzu Sobechukwu W I.[1], Maduka Ukamaka B.[1]**

*[1]Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Enugu Campus, Nigeria.*

***Correspondence:** uloma.nwogu@unn.edu.ng

## ABSTRACT

**Introduction:** Musculoskeletal injuries constitute a major cause of morbidity, disability, and healthcare burden globally, with disproportionate impact in low- and middle-income countries. In Nigeria, road traffic accidents, occupational hazards, and inadequate safety infrastructure contribute significantly to the incidence. Conventional radiography remains the primary and most accessible imaging modality for evaluating these injuries in resource-limited settings; however, institution-specific epidemiological data remain sparse. This study aimed to evaluate the radiographic patterns of musculoskeletal injuries at the University of Nigeria Teaching Hospital (UNTH), Ituku-Ozalla, with respect to injury type, anatomical distribution, mechanism, and patient demographics.

**Methods:** A retrospective descriptive study was conducted at the Department of Radiation Medicine, UNTH. Using stratified random sampling, 158 archived radiographs of patients with confirmed musculoskeletal injuries (July 2020–July 2025) were reviewed. A structured data extraction checklist captured demographic data, injury classification, anatomical site, and mechanism of injury. Data were analysed using SPSS version 25; descriptive statistics and Chi-square tests were applied, with statistical significance set at $p < 0.05$. Ethical approval was obtained from the HREC of UNTH.

**Results:** Males constituted 63.9% of cases; adults aged 18 years and above accounted for 74.1%. Fractures were the predominant injury type (67.7%), followed by dislocations (22.2%) and combined fracture-dislocation injuries (10.1%). Road traffic accidents were the leading mechanism of injury (26.6%), followed by unknown causes (19.6%), occupational injuries and falls (17.7% each), sports-related injuries (12.0%), and direct trauma (6.3%). The forearm was the most frequently injured region (17.7%), followed by the lower leg (13.9%), humerus (12.7%), and femur (9.5%). Chi-square analysis demonstrated no statistically significant association between injury pattern and either sex ($p > 0.05$) or age group ($p > 0.05$).

**Conclusion:** Fractures are the most common radiographically detected musculoskeletal injury at UNTH, predominantly affecting economically active adult males. Road traffic accidents represent the principal mechanism of injury. These findings establish institution-specific baseline data to inform clinical decision-making, imaging protocol development, and targeted injury prevention strategies. Strengthened road safety policies and standardised radiographic protocols for high-frequency anatomical sites are recommended.

**Keywords:** musculoskeletal injuries, radiographic patterns, fractures, road traffic accidents, plain radiography, UNTH

# IMPLEMENTING A DIGITAL FLIPPED CLASSROOM MODEL IN NURSING EDUCATION: STUDENTS' PERCEPTION, LEARNING SATISFACTION, AND WOUND-DRESSING PERFORMANCE IN NORTHWEST NIGERIA

***[1]Abdullahi Adamu, [2]Prof. Hayat I. Gommaa, [2]Prof. A.B. Umar, [2]Dr. Aisha Salihu Abdullahi, [2]Dr. M.A. Maliki, [2]Dr. H.M. Sani, [2]Dr. F. Balarabe, [1]Umar Abdullahi Musa, [1]Ibrahim Muhammad Usman, [1]Usman Yahaya, [1]Dr. Ali Muhammad Garko***
*[1]Department of Nursing Science, Federal University Dutse, Nigeria*
*[2]Department of Nursing Science Ahmadu Bello University Zaria, Nigeria*

*Correspondence:* ***abduladam76@gmail.com.***

## ABSTRACT

**Background:** The digital transformation of health sciences education necessitates teaching approaches that enhance students' learning experience while strengthening clinical skill acquisition. The Digital Flipped Classroom Model (DFCM) integrates pre-class digital learning with interactive, skills-focused face-to-face sessions and has gained increasing attention in nursing education.

**Objective:** This study examined the implementation of the DFCM with specific emphasis on nursing students' perception, learning satisfaction, and performance in wound-dressing procedures in Northwest Nigeria.

**Method:** A quasi-experimental pretest–posttest design was employed among undergraduate nursing students at Ahmadu Bello University Zaria, and Bayero University, Kano (pre-intervention $n$ = 210; post-intervention $n$ = 178). Data were collected using structured questionnaires assessing students' perception and satisfaction with the DFCM, alongside observational checklists evaluating wound-dressing performance. Paired samples $t$-tests and Pearson correlation analyses were conducted at a 0.05 level of significance.

**Result:** Findings showed a statistically significant improvement in students' perception following the implementation of the DFCM, with mean scores increasing from 3.30 to 4.13 ($t$ = 12.46, $p < 0.001$), reflecting enhanced engagement, confidence, and collaborative learning. Learning satisfaction also increased significantly, rising from a pre-intervention mean of 3.34 to 4.18 post-intervention ($t$ = 12.73, $p < 0.001$), indicating high satisfaction with instructional content, instructor support, and learning structure. Wound-dressing performance demonstrated marked improvement, with mean scores increasing from 1.38 (46%) before the intervention to 2.89 (96.3%) after the intervention ($t$ = 15.42, $p < 0.001$). A strong positive correlation was observed between students' perception and wound-dressing performance ($r$ = 0.66, $p < 0.001$).

**Conclusion:** The study concludes that the DFCM enhances students' learning experience and clinical competence, supporting its adoption as a scalable digital innovation in nursing education, particularly in resource-constrained settings.

**Keywords:** Digital flipped classroom, nursing education, perception, student satisfaction, wound-dressing performance

# PERCEPTION, CHALLENGES, AND THREATS ASSOCIATED WITH THE USE OF ARTIFICIAL INTELLIGENCE IN LEARNING AMONG NURSING UNDERGRADUATES OF UNIVERSITY OF NIGERIA ENUGU CAMPUS

**Chikeme Paulina Chigwara[1*], Ogbu Sylvia Tochi, Ihudiebube-Splendor Chikaodili Ndidiamaka[1]**

[1]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus. Enugu, Nigeria

**Correspondence: paulina.chikeme@unn.edu.ng**

## ABSTRACT

**Background:** While Artificial Intelligence (AI) has the potential to enhance nursing education and improve the quality of healthcare, there are challenges to its use among university students. Hence, the study on perception, challenges, and threats associated with the use of AI in learning among nursing undergraduates of the University of Nigeria, Enugu Campus.

**Material and Methods:** In this cross-sectional study, 282, 2-5 levels nursing undergraduates were recruited through proportionate stratified sampling, and each stratum was then subjected to simple random sampling to choose the number of students. Data collection was through a self-developed, pre-tested questionnaire from March to May 2025**.** Descriptive and inferential statistics were used for the data analyses. An overall mean perspective score was obtained for each student by taking the mean response scores. The mean score > 2.5 was grouped as positive and yes, and ≤ 2 as negative. The inferential statistics – independent samples t-test and multiple linear regression analysis were used to test the hypothesis at 5% level of significance. Data was analysed using SPSS version 27 and Microsoft Excel.

**Results:** The majority of nursing students (92.8%) had a favourable opinion of the application of AI in education. The main challenge with using AI in education is that the program occasionally gives inconsistent or erroneous information (2.62±0.86). The expected risks of using AI in education were that it would replace critical thinking and decision-making abilities in nursing practice and lessen the necessity for human connection in nursing education (3.11±0.82).

**Conclusion:** Students' opinions about the employment of AI in education did not significantly correlate with their demographic traits (p =.976), and the perceived difficulties of using AI in education did not differ significantly by gender (p >0.50). Therefore, Nursing schools should integrate AI technologies into the nursing curriculum to enhance the learning experience.

**Keywords:** Perception, Challenges, Threats, Artificial Intelligence, Learning

# DIAGNOSTIC ACCURACY OF ARTIFICIAL INTELLIGENCE IN COMPUTED TOMOGRAPHY: A SYSTEMATIC REVIEW AND META-ANALYSIS

**[1]Onwuzu, Sobechukwu W I, Onuorah Lynda Chiamaka[1], Onah Paschaline Amarachi[1], Onugwu Collins Onyekachi[1], Onah Onyedikachi Thaddeus[1], Onoja Collins Ekene[1], Onwukwe Benjamin Chidiebere[1], Onah Blessing Chichebem[1], Onovo Grace Nmesoma[1], Oyioha Somtochukwu Judith[1]**

[1] Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.

Correspondence: sobechukwu.onwuzu@unn.edu.ng

## ABSTRACT

**Background**: The increasing use of computed tomography (CT) has raised concerns about diagnostic performance and clinical efficiency. Artificial intelligence (AI) presents a promising approach to improving image interpretation while maintaining diagnostic accuracy.

**Objective**: This meta-analysis evaluates the diagnostic accuracy of AI-assisted approaches in CT imaging without compromising diagnostic quality.

**Methods**: A systematic literature search was conducted in PubMed, Scopus, Web of Science, and Embase for studies published between January 2015 and October 2024. We included diagnostic accuracy studies comparing AI-assisted CT to a reference standard. The quality of studies was assessed using the QUADAS-2 tool. Meta-analysis was performed using a bivariate random-effects model to pool sensitivity and specificity. Hierarchical summary receiver operating characteristic (HSROC) curves were generated, and heterogeneity was assessed using the $I^2$ statistic.

**Results**: Nine studies with a total of 9,778 participants were included. AI-assisted CT demonstrated a pooled sensitivity of 0.95 (95% CI: 0.84–0.98) and a pooled specificity of 0.82 (95% CI: 0.64–0.92). The area under the HSROC curve (AUC) was 0.94, indicating high overall diagnostic accuracy.

**Conclusions**: AI-assisted CT demonstrates high sensitivity and good specificity for detecting pathologies, supporting its role as a reliable tool in diagnostic imaging. The high heterogeneity across studies underscores the need for standardized AI validation frameworks and larger prospective trials to confirm these findings across diverse clinical settings**.**

**Keywords**: Artificial Intelligence, Computed Tomography, Dose Reduction, Diagnostic Accuracy, Meta-Analysis, Radiation Protection.

# CLINICAL LOGBOOKS IN RADIOGRAPHY EDUCATION: EVALUATION OF UTILIZATION, EFFECTIVENESS AND CHALLENGES

**Maduka Beatrice U [1]*, Nnoli Blessing I [2], Eze Sunday C [1], Okike Abel S [1], Urama Peace C [1], Ulasi Chidera E [1], Ukwueze Genevieve U [1], Ugwuziondike Victory C [1], Ugwuja Augustine E [1], Ugwueze Cosmas O [1]**

[1] Department of Medical Radiography and Radiological Sciences, University of Nigeria Enugu Campus, Nigeria

[2] Department of Radiology, National Orthopaedic Hospital, Enugu, Nigeria

*Correspondence: beatrice.maduka@unn.edu.ng

## ABSTRACT

**Introduction:** Clinical education is a core component of Radiography training, requiring effective tools to monitor students' competency development and skills. The aim of the study is to evaluate the utilization of clinical logbooks and their effectiveness in tracking the clinical performance of radiography students.

**Materials and methods:** This was a prospective, cross-sectional study carried out among radiography students in South-Eastern Nigeria. Ethical approval for the study was obtained from the Health Research and Ethics Committee of University of Nigeria Teaching Hospital, Ituku-Ozalla. Informed consent was obtained from all the students. The Cronbach alpha test for internal consistency of items was applied in checking for the reliability of the instrument. The Cronbach alpha coefficient value was 0.80. A well, structured questionnaire was distributed to the students. Data was analyzed using frequency, percentages and Spearman's correlation.

**Results:** A total of 310 radiography students participated in the study. 42.6% (n=132) were males while 57.4% (n=178) were females. The results showed that clinical logbook usage is high among radiography students (Grand mean = 3.79). The effectiveness of its usage is also high (Grand mean = 3.66). The results showed that there was no statistically significant relationship between the level of study and perceived effectiveness of clinical logbooks ($r = 0.087$, $p = 0.112$). The major challenges encountered by the students in using clinical logbooks are insufficient supervision, lack of clear instructions and inadequate space for making entries amongst others. The suggested improvements are more frequent supervisor feedback, clearer guidelines for completing logbooks, adoption of digital logbooks, more space and structured sections.

**Conclusion:** Clinical logbooks are valuable tools for supporting learning in radiography training, but their effectiveness is limited by supervisory and structural challenges. Improving supervision, feedback mechanisms and transitioning to a more digital system can enhance the effectiveness of clinical logbooks in tracking students' clinical progress.

**Key words:** Logbooks; Radiography, Utilization, Clinical

# SITE-SPECIFIC EVALUATION OF IMAGING OUTPUT DIFFERENCES BETWEEN KV AND CBCT IN IMAGE-GUIDED RADIOTHERAPY

***Shuaibu A[1,2], Eze CU[2], Anakwue AC[2], Onwuzu SW [2,]Usoro IE[2,3], Mohammed I[1], Umaru A[1]**

1. Department of Medical Radiography, Faculty of Allied Health Sciences, College of Medical Sciences, Ahmadu Bello University Zaria.
2. Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
3. Department of Medical Radiography and Radiation Sciences, College of Medicine. Lead City University. Ibadan, Nigeria.
**Correspondence**: abdullahishuaibu@abu.edu.ng

## ABSTRACT

**Background:** Cone beam computed tomography (CBCT) is the dominant modality for image-guided radiotherapy (IGRT), yet its cumulative imaging dose over a multi-fraction treatment course raises patient safety concerns, particularly in resource-constrained settings. This study quantified and compared imaging output indices between kilovoltage (kV) planar imaging and CBCT across four anatomical sites, providing a site-specific evidence base for dose-informed modality selection.

**Methods:** A prospective, within-patient study was conducted at the University of Nigeria Teaching Hospital (UNTH), Enugu State, enrolling 39 patients undergoing IGRT across breast, head and neck, spine, and pelvis treatment sites. Imaging output indices were extracted from DICOM radiation dose structured reports (RDSR). For CBCT, CTDIvol (mGy) and dose-length product (DLP, mGy·cm) were recorded; for planar kV imaging, reference air kerma (Ka,r) and dose-area product (DAP, Gy·cm$^2$) were captured. All indices were converted to cGy for standardised cross-modality comparison. Paired t-tests were applied to assess statistical significance of differences between modalities at each site.

**Results:** Imaging output was consistently and significantly lower for kV than CBCT across all sites ($p < 0.001$). Mean kV output per imaging session ranged from 0.13 to 0.29 cGy, compared with 2.12 to 3.35 cGy for CBCT. Mean differences (kV minus CBCT) ranged from -1.98 cGy (head and neck) to -3.06 cGy (pelvis), with large effect sizes (Cohen's dz: -5.26 to -8.94). The pelvis exhibited the highest CBCT output, attributable to larger field-of-view requirements and higher mAs protocols.

**Conclusion:** Planar kV imaging delivers substantially lower imaging output than CBCT across all treatment sites, with output reductions of approximately 10- to 15-fold per session. These findings support kV imaging as a dose-efficient verification strategy in sites where geometric accuracy is maintained, and underscore the importance of optimising CBCT protocols in alignment with ALARA principles and AAPM TG-180 guidance.

# INFORMATION SECURITY AWARENESS AND BEHAVIOURS OF HEALTHCARE PROFESSIONALS IN TERTIARY HOSPITALS IN ENUGU STATE

**Abonyi, E.O[1], Agbo, J.A[1], Onwuzu, SWI[1], Maduka, B.U[1], Nwogu, B.U[1], Anakwue, A.C[1], Idigo, F.U[1], Eze, C.U[1]**
[1] Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
Correspondence: obinna.abonyi@unn.edu.ng

## ABSTRACT

**Background:** Increasing digitization of hospital records in Nigeria has heightened exposure to cyber threats, yet evidence on healthcare workers' information security awareness and practices remains limited. This study assessed information security infrastructure, training/enforcement, awareness, and behaviours among healthcare professionals in three tertiary hospitals in Enugu State.

**Methods:** A descriptive cross-sectional survey was conducted (August–December 2025) among doctors, nurses, radiographers and medical laboratory scientists using stratified random sampling. A structured questionnaire (Cronbach's alpha=0.78) was administered; data were analysed in SPSS v25 using descriptive statistics and chi-square tests for associations.

**Results:** Among 375 respondents, 76.5% routinely used computers/EMR systems. Reported security infrastructure was suboptimal (e.g., absence of secure servers 52.0%, firewalls/intrusion detection 55.4%, antivirus 50.7%). Most respondents reported inadequate staff training (63.5%) and weak enforcement of security policies (64.8%). Overall information security awareness was low (weighted mean 3.90), particularly for identifying common threats and breach-reporting procedures. In contrast, self-reported security behaviours were relatively good (weighted mean 3.92. There was significant association between professionals and awareness (p=0.002), while years of practice was not.

**Conclusion:** Tertiary hospitals in Enugu show gaps in security infrastructure, training and enforcement, with low staff awareness despite generally positive self-reported behaviours. Targeted routine training and strengthened institutional controls are recommended.

**Keywords:** Information Security; Awareness; Behaviour; Healthcare; Professionals.

# KNOWLEDGE, ATTITUDES AND PERCEIVED BARRIERS TO TELEHEALTH AND TELENURSING AMONG NURSING UNDERGRADUATES OF UNIVERSITY OF NIGERIA ENUGU CAMPUS

**Augusta Ebube Nwankwo[1]*, Eziwanne Blessing Chukwu[12]*, Chikeme Paulina Chigwara[1]**
[1]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus. Enugu, Nigeria.
[2]Federal University of Allied Health Sciences, Enugu, Nigeria.
**Correspondence: ebubenwankwo205@gmail.com**

## ABSTRACT

**Background:** In the context of rapid digital transformation in healthcare, telehealth and telenursing are increasingly redefining nursing practice. Preparing future nurses to effectively utilize these technologies is therefore essential. This study assessed the knowledge, attitudes, and perceived barriers to telehealth and telenursing among undergraduate nursing students at the University of Nigeria, Enugu Campus (UNEC).

**Material and Methods**: A descriptive cross-sectional design was employed. A total of 285 undergraduate nursing students across 300–500 levels were selected using proportionate sampling. Data were collected between September and October 2025 using a validated, researcher-developed questionnaire covering demographic characteristics, knowledge, attitudes, and perceived barriers. Knowledge items were scored as 1 (correct) and 0 (incorrect), converted to percentages, and categorized as adequate (≥50%) or inadequate (<50%). For attitude and perceived barrier items measured on a 4-point Likert scale, mean scores >2.5 were interpreted as positive, while ≤2.5 were negative. Data were analysed using SPSS version 25 with descriptive statistics and Chi-square tests at a 5% significance level.

**Results:** This study found that the mean age of the participants was 22.98 ± 2.96 years. Overall knowledge was high (80.35 ± 16.80%), with 95.8% demonstrating good knowledge as reflected in their correct identification of telehealth as ICT-enabled remote care, including real-time video consultations, remote monitoring, and wearable technologies. Attitudes were predominantly positive, with 87.7% of respondents demonstrating positive attitudes (M = 2.86 ± 0.47), indicating acceptance of improved access, continuity of care, and willingness to integrate telehealth into future practice. However, 80.4% reported high perceived barriers (2.83 ± 0.53), including lack of patient devices (3.13 ± 0.78), unreliable internet/electricity (3.07 ± 0.85), and unclear policies/data privacy concerns (~2.9).

**Conclusion:** Significant associations were observed between knowledge and attitude ($p<0.001$) and between knowledge and perceived barriers ($p<0.001$). Therefore, Nursing schools should integrate telehealth into the nursing curriculum, alongside improvements in ICT infrastructure and policy frameworks.

**Keywords:** Telehealth, Telenursing, Knowledge, Attitudes, Perceived Barriers.

# AWARENESS AND WILLINGNESS TO ENROLL AND PAY FOR ENUGU STATE HEALTH INSURANCE AMONG MARKET MEN AND WOMEN IN ENUGU STATE

**Ozoali Chidimma JaneFrances and Arize Ifeyinwa**
Department of Health Administration and Management, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.

## ABSTRACT

**Background:** Three years after the state health insurance scheme became mandatory in Nigeria, Enugu State has actively started enrolling its residents in the Enugu State Universal health coverage scheme. Health insurance is a key strategy for reducing out-of-pocket healthcare expenditure, improving access to quality health services, affordable healthcare without the burden of catastrophic out-of-pocket costs. This study aims to examine the level of awareness and willingness to enroll and pay for Enugu state health insurance among market men and women in Enugu State, Nigeria

**Methodology:** The study adopted a descriptive cross-sectional survey design involving business market men and women found in various market locations in Enugu North and South LGAs. Primary data were collected from 120 respondents with the aid of an interviewer administered questionnaire. Data were analyzed using SSPSS analytical tools using descriptive and inferential statistics.

**Findings**: The findings of this study indicated respondents were mainly female (61.7%), married (56.7%), and aged 21–30 (35.8%). Most were petty traders (42.5%), with 25% having polytechnic/university education and many possessing 5–8 years of business experience. Average annual income was ₦150,800, with most earning ₦100,000–₦199,000. Awareness of the Enugu State Universal Health Coverage Scheme was moderate (51.6%), largely via TV (36.7%) and newspapers (33.3%). Knowledge of health insurance benefits was modest, with affordability (35%) and dependent coverage (10.8%) most cited. Willingness to enroll and pay was low: more were unwilling than willing to enroll (53.3% vs. 46.7%) and pay (51.7% vs. 48.3%), and 55.8% resisted enrolling dependents or paying stipulated premiums. Barriers included low awareness, income constraints, hidden costs, and competing priorities, while service-related issues were minor. Notably, 57.5% preferred monthly premium payments, underscoring affordability and awareness as key participation drivers

**Conclusion**: In conclusion, the findings highlighted that while the majority of respondents were young, female petty traders with modest incomes and moderate awareness of the Enugu State Universal Health Coverage Scheme, their willingness to enroll and pay remains low. Although affordability and dependent coverage were recognized as key benefits, barriers such as limited awareness, income constraints, hidden costs, and competing financial priorities significantly hinder willingness to enroll and pay. Service-related issues were less critical, but the preference for monthly premium payments underscores that affordability and awareness are the most decisive factors influencing participation. These results suggest that improving knowledge of the scheme and addressing financial barriers are essential to increasing willingness to enroll and pay and ensuring broader health coverage.

**Keywords**: Health insurance; Awareness; Willingness to enroll and pay; Market men and women.

# SONOGRAPHIC BASELINE DATA OF THE FETAL TRANSVERSE THALAMIC DIAMETER IN SECOND AND THIRD TRIMESTER GESTATIONS IN PORT HARCOURT, NIGERIA

**Digwoke Titus O.[1], Anakwue AngelMary[1], Onwuzu Sobechukwu W.I[1], Maduka Ukamaka B.[1]**
[1]Department of Medical Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus, Nigeria

Correspondence: buchidigwoke@gmail.com

## ABSTRACT

**Background:** Neurodevelopmental disorders such as autism spectrum disorder, attention-deficit hyperactivity disorder (ADHD), schizophrenia, and dyslexia are typically diagnosed postnatally, often when opportunities for early intervention are limited. Some of these conditions have been associated with alterations in thalamic size. Despite the potential of prenatal ultrasound in early detection of such anomalies, the absence of population-specific baseline data for fetal transverse thalamic diameter (TTD) limits its clinical applicability in Nigeria, particularly in Port Harcourt, where genetic and environmental diversity may influence fetal brain development. This study aimed to establish baseline sonographic data for fetal TTD during the second and third trimesters of pregnancy in Port Harcourt, Nigeria.

**Materials and Methods:** This prospective cross-sectional study involved 350 pregnant women with singleton gestations. Transabdominal ultrasonography was performed to measure the transverse thalamic diameter alongside standard fetal biometric parameters, including biparietal diameter (BPD), head circumference (HC), abdominal circumference (AC), and femur length (FL). Data were analyzed using Pearson correlation, polynomial regression models, and independent sample t-tests to evaluate relationships between TTD, gestational age (GA), and other biometric indices.

**Results:** The mean transverse thalamic diameter increased progressively with gestational age, from 9.52 ± 0.49 mm at 14 weeks to 24.2 ± 1.3 mm at 40 weeks. A strong positive linear correlation was observed between TTD and GA, with Pearson correlation coefficients of $r = 0.953$ in the second trimester and $r = 0.752$ in the third trimester ($p < 0.001$). Polynomial regression analysis demonstrated high predictive accuracy for estimating GA from TTD, with coefficients of determination ($R^2$) of 99.3% in the second trimester and 93.2% in the third trimester.

**Conclusion:** This study established baseline sonographic reference values for fetal transverse thalamic diameter in second and third trimester pregnancies in Port Harcourt. TTD demonstrates strong correlation with gestational age and may serve as a reliable parameter for assessing fetal neurological development. Incorporating TTD measurement into routine obstetric ultrasound protocols may enhance early detection of central nervous system abnormalities.

# EFFECT OF MOBILE HEALTH TECHNOLOGIES ON TREATMENT ADHERENCE AND HEALTH-RELATED QUALITY OF LIFE AMONG WOMEN WITH HYPERTENSIVE DISORDERS OF PREGNANCY.

**Ebere Rose Oguejiofor**
Department of Nursing Sciences, Faculty of Health Sciences and Technology College of Medicine
University of Nigeria, Enugu Campus
Correspondence: ebereoguejiofor2@gmail.com

## ABSTRACT

**Background:** Hypertensive disorders of pregnancy (HDP) remain major causes of maternal and foetal morbidity and mortality in developing countries such as Nigeria. Poor treatment adherence, inadequate monitoring, and delayed health-seeking behaviour often worsen pregnancy outcomes. Mobile health (mHealth) technologies have emerged as innovative tools for improving maternal healthcare delivery.

**Objective:** This study assessed the level of mHealth utilization, determined treatment adherence and health-related quality of life (HRQoL) and examined the relationship between mHealth utilization, treatment adherence and HRQoL among women with HDP.

**Methods:** A descriptive cross-sectional research design was adopted. The study population comprised pregnant women diagnosed with HDP attending antenatal clinics in selected health facilities. A multistage sampling technique was used to select 102 respondents. Data were collected using a structured questionnaire and analysed using Statistical Package for Social Sciences (SPSS) version 28. Descriptive statistics summarized the data, while Chi-square and logistic regression analyses tested the hypotheses at $p<0.05$.

**Results:** Findings showed low utilization of mHealth technologies (24.8%). Commonly utilized technologies included SMS medication reminders (27.6%), phone call follow-ups from healthcare providers (24.3%), and mobile-based health education messages (21.5%). Good treatment adherence was reported by 63.4% of respondents, while 61.2% reported good HRQoL. Significant associations existed between mHealth utilization and treatment adherence ($\chi^2=12.46$, $p=0.002$) and between mHealth utilization and HRQoL ($\chi^2=10.83$, $p=0.004$). Logistic regression showed that women who regularly utilized mHealth technologies were more likely to demonstrate good treatment adherence (AOR=2.31; 95% CI:1.41–3.76) and improved HRQoL (AOR=1.89; 95% CI:1.18–3.04).

**Conclusion:** The study concluded that mHealth technologies positively influence treatment adherence and HRQoL among women with HDP.

**Keywords:** Mobile health technologies; treatment adherence; health-related quality of life; hypertensive disorders of pregnancy; antenatal care.

# AWARENESS AND PREVENTIVE MEASURES REGARDING RISK FACTORS RESPONSIBLE FOR PRE-ECLAMPSIA AMONG PREGNANT WOMEN ATTENDING THE ANTENATAL CLINIC OF UWANI PRIMARY HEALTH CARE CENTRE, ENUGU

**[1]Benita Chinaza Aneke, [2]Ijeoma Judith Ilo, [3]Peace Iheanacho, [4]Chidiebele Petronilla Ojukwu**
[1,2,3]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
[4]Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
Correspondence: anekenita@gmail.com

## ABSTRACT

**Introduction:** Pre-eclampsia is a hypertensive disorder of pregnancy that significantly contributes to maternal and fetal complications worldwide. Early awareness of risk factors, symptoms, and preventive measures is crucial for reducing its adverse outcomes. This study aimed to determine the level of awareness of pre-eclampsia risk factors, assess knowledge of symptoms and preventive strategies, and evaluate the role of antenatal education in improving awareness and prevention among pregnant women attending the antenatal clinic at Uwani Primary Health Care Centre, Enugu.

**Methods:** A descriptive cross-sectional survey design was adopted, and 114 pregnant women were selected through simple random sampling from a population of 160 women. Data were collected using a structured, researcher-designed questionnaire covering socio-demographic information, awareness of pre-eclampsia, knowledge of symptoms and preventive measures, and the role of antenatal education. The instrument was validated for face and content validity, and reliability was confirmed through a pilot test using the test–retest method. Data were analyzed using SPSS version 27 and Microsoft Excel.

**Results:** Results showed that 50.9% of participants had awareness of pre-eclampsia risk factors, while knowledge of symptoms and preventive measures was 59.6%, with regular antenatal visits and following health workers' advice being the most recognized preventive practices. Attendance of antenatal classes was positively correlated with knowledge ($r = 0.232$, $p = 0.013$). Educational level and occupation were significantly associated with awareness.

**Conclusion:** The study concluded that antenatal education plays a vital role in improving awareness and preventive practices. It is recommended that the Ministry of Health, hospital management, and nursing educators strengthen antenatal education programs, provide targeted interventions for high-risk groups, and promote community-based outreach to enhance early recognition and prevention of pre-eclampsia.

**Keywords:** Pre-eclampsia, Awareness, Symptoms, Preventive measures, Antenatal education, Pregnant women

# NURSE-PATIENT COMMUNICATION AS PERCEIVED BY NURSES AND PATIENT AT UNIVERSITY OF NIGERIA TEACHING HOSPITAL ITUKU OZALLA ENUGU

**[1]Ijeoma Kenechi Egwu, [2]Ijeoma Judith Ilo, [3]Peace Iheanacho [4]Chidiebele Petronilia Ojukwu**

[1,2,3]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
[4]Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus.
Correspondence: nataliaegwu@gmail.com

## ABSTRACT

**Background**: Effective communication is a two-way dialogue between patients and nurses that protects the patient from adverse health consequences caused by ineffective communication. The study assessed the perception of nurse-patient communication by nurses and patients at University of Nigeria Teaching Hospital, Ituku Ozalla. Enugu.

**Methods:** A descriptive cross-sectional design was employed. Data was collected after oral consent from the respondents was granted and it was analysed with SPSS/IBM version 26. A large majority of the respondents were aged 26-35 years (56.1%), while only a small proportion were aged 56 years and above (4.7%). Majority were male (78.9%) and patients were slightly higher (54.4%) compared to nurses (45.6%). Most of the respondents had tertiary education (91.2%), a few had secondary education (7.6%) and only 1.2% had no formal education. Among nurses, most had more than 10 years of experience (43.8%), while 19.1% had less than 1 year of experience. The patients visited the hospital visited rarely (39.7), some visited occasionally (36.5%), and 23.8% visited frequently.

**Results:** Effective communication from nurses made patients more likely to follow medical advice (3.71±0.46); Patients felt comfortable communicating health concerns to nurses (3.66±0.50); Nurses perceived that patients were generally satisfied with their communication (3.58±0.49). Effective verbal communication between nurses and patients was associated with improved healthcare outcomes (3.68±0.49); When nurses used simple and clear language, patients reportedly understood their treatment plans better (3.65±0.54); Clear verbal communication from nurses improved patient satisfaction (3.64±0.55). The attitude of nurses towards patients mostly influenced communication (3.59±0.61); The emotional and psychological state of patients significantly influenced communication (3.51±0.56); Nurse workload and time constraints also highly affected communication (3.46±0.59).

**Conclusion:** Hospital Administration should implement regular communication skills training programs for nurses, focusing on empathetic listening, simple language use, and positive attitudes, as the study found that nurses' attitude was the most influential factor in effective communication.

**Keywords:** Nurse-patient communication, Healthcare outcomes, Patient satisfaction, Communication barriers.

# BEYOND ROUTINE TESTING: HEALTH SYSTEM GAPS IN DETECTING INHERITED BLEEDING DISORDERS IN NIGERIA

**Eyiuche D Ezigbo,[1], Uche Ezomike[2], Peace O. Ezeagu,[3] Amon Rahila, [4], Olusola.O.[5] and Chinwe O. Okeke[6]**

1 Thrombosis & Haemostasis Unit, Department of Medical Laboratory Sciences, University of Nigeria, Enugu, Nigeria

2 University of Nigeria Teaching Hospital, Enugu, Enugu, Nigeria

3. Benue State University Teaching Hospital, Makurdi

4.Molecular Diagnostic Laboratory, Public Health complex, State Specialist Hospital Gombe, Gombe State

5 Department of Medical Laboratory Science, College of Medicine and Health Sciences, Afe Babalola University, Ado-Ekiti, Ekiti, Ekiti, Nigeria

6.Center of Excellence for Sickle Cell Disease Research and Training (CESRTA), University of Abuja

Correspondence: eyiuche.ezigbo@unn.edu.ng

## ABSTRACT

**Background:** Presurgical coagulation screening offers an opportunity to detect previously undiagnosed bleeding disorders before invasive procedures. The activated partial thromboplastin time (APTT) is commonly used to identify abnormalities in the intrinsic coagulation pathway and can serve as an early signal prompting evaluation for inherited bleeding disorders such as von Willebrand disease or haemophilia. However, the effectiveness of APTT as a screening tool depends on clinicians' interpretation of abnormal results and the availability of appropriate diagnostic pathways. In many low- and middle-income settings, limited awareness and restricted access to confirmatory testing may weaken the ability of health systems to detect bleeding disorders through presurgical screening.

**Objective:** To evaluate physician awareness, decision-making, and diagnostic pathways related to isolated prolonged APTT before surgery and assess health system readiness to detect inherited bleeding disorders.

**Methods:** We conducted a nationwide cross-sectional online survey between August–November 2025 among physicians involved in surgical and perioperative care across 20 tertiary and secondary hospitals in Nigeria. Using purposive sampling, clinicians participating in preoperative assessment—including surgeons, paediatricians, obstetrician–gynaecologists, anaesthesiologists, and internists—were recruited. The survey assessed indications for APTT testing, responses to abnormal results, subsequent diagnostic actions, and patient cost implications.

**Results:** Ninety-four physicians participated, primarily from general surgery (28%) and paediatrics (21%). Bleeding history was the most common indication for ordering APTT (60%), whereas routine presurgical testing was uncommon (5%) and 16% reported never requesting the test. When faced with an isolated prolonged APTT, clinical responses varied considerably. Many clinicians postponed surgery or proceeded without further diagnostic clarification, often relying on empiric prophylactic therapy (37%). Only 30% pursued additional investigations. Nearly all respondents (96%) reported that abnormal results increased patient costs.

**Conclusions:** Marked variability in presurgical coagulation practices reveals provider-level gaps in detecting inherited bleeding disorders; standardized algorithms, clinician education, and improved testing access could strengthen diagnostic readiness.

## PERCEPTION AND CHALLENGES FACED BY MALE NURSING STUDENTS IN A FEMALE-DOMINATED NURSING PROFESSION AND ITS ASSOCIATED COPING STRATEGIES

Okoye Chidindu Perpetua, Chikeme, Paulina Chigwara*, Ihudiebube-Splendor Chikaodili Ndidiamaka[1]
[1]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus, Enugu, Nigeria
**Correspondence: perpetuachiokoye@gmail, paulina.chikeme@unn.edu.ng**

### ABSTRACT

**Background:** Nursing has long been culturally and institutionally framed as a female-dominated profession with the underrepresentation of men, which has been attributed to gender stereotypes and societal perceptions. Hence, this study on perception and challenges faced by male nursing students in a female-dominated nursing profession its coping strategies.

**Material and Methods:** In this cross-sectional study, 294, 2-5 levels male nursing undergraduates were recruited through purposive non-probability sampling. Data collection was through a self-developed, pre-tested questionnaire which lasted from September to November 2025. Descriptive and inferential statistics were used for the data analysis. The mean score > 2.5 was grouped as positive and yes, and ≤ 2 as negative and no. The inferential statistics—independent samples t-test and multiple linear regression analysis—were used to test the hypothesis at the 5% level of significance. Data were analyzed using SPSS version 27 and Microsoft Excel.

**Results:** Male nursing students had a positive perception of the nursing profession (93.2%). The major challenges encountered by the students were misinterpretation of intentions in interactions with female peers or patients (3.00±0.80), discomfort during intimate patient care situations (2.96±0.84), and gender stereotypes and bias (2.95±0.84). The major coping strategies and support systems utilized were practicing self-confidence and self-advocacy (3.31±0.70), disregarding gender stereotypes (3.28±0.72) and concentrating on academics and reframing challenges as opportunities for growth (3.23±0.69). Students with positive perception had gender stereotypes and bias (p= .027) and discrimination from faculty, patients or colleagues (p= .013) as major challenges while those with negative perception had been singled out for being a male as their major challenge (p= .002).

**Conclusion:** Male nursing students show growing acceptance in nursing despite stereotypes and discrimination. Supportive training and mentorship are needed to promote inclusion and professional growth.

**Keywords:** Perception, Challenges, Male-Nursing Students, Female profession, Coping strategies

# ENDO AND ECTO COLONIZATION OF COCKROACHES WITH PATHOGENIC BACTERIA: THE PUBLIC HEALTH IMPLICATIONS

**Onyemelukwe Ngozi F., Omaka Emmanuel Onwe.**
Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, University of Nigeria Enugu Campus.
Correspondence: omakaemmanuelonwe@gmail.com

## ABSTRACT

**Background:** Cockroaches are widespread domestic insect pest of public health and epidemiological importance. Their potentials are most often neglected due to their relative physical innocuousness unlike their counterparts like mosquitoes, bed bugs, fleas, lice and biting midges. Hence this study is aimed at documenting the bacteria isolated from the body surface and gut of cockroaches in Enugu environment.

**Method:** One hundred and thirty (130) cockroaches captured through the Knock down technique according to Sharma K. A. *et al.,* (2009) from hostels, residential areas, markets and hospitals were analyzed for enterobacterial colonization. Seventy (70) cockroaches were obtained from hostels, thirty (30) cockroaches from residential areas and thirty (30) cockroaches from hospital. MacConkey broth, Eosin Methylene Blue agar and Nutrient agar were media used. Isolation was done using standard microbiological techniques. All the cockroaches sampled had at least one bacterium.

**Result:** A total number of 228 and 224 bacterial isolates were obtained for endo and ecto colonization respectively out of which 117 (51.32%), 56 (24.56%) & 55 (24.12%) for endocolonization and 113 (50.45%), 57 (25.45%) & 54 (24.11%) for ectocolonization were the total number of bacteria isolated from hostel, residential areas and hospital respectively. *Escherichia coli* 81 (35.52%) and 74 (33.04%), *Klebsiella pneumoniae* 50 (21. 92%) and 62 (27.68%), *Enterobacter clocae* 40 (17.54%) and 34 (15.18%) and *Pseudomonas aeriginosa* 27 (11.84%) and 18 (8.04%) were the predominant organisms. *Proteus vulgaris* 2 (0.9%) and 0 (0%), *Citrobacter freundii* 4 (1.8%) and 0 (0%) were the least isolated organisms. Overall, although slight differences were observed between endo and ecto bacterial distributions, the p-value (>0.05) indicates that these differences were not statistically significant, suggesting similar bacterial carriage patterns on the internal and external surfaces of cockroaches.

**Conclusion:** This research shows that cockroaches are mechanical vectors and carriers of enteropathogens which can be transmitted to man. Efforts are hence needed to eradicate them as their presence in our environment poses a great threat to public health. Based on these findings, further works are hereby recommended to unravel other microbes including viral, fungal and parasitic organisms with a view to formulating better control measures for cockroach-acquired diseases.

**Key Words:** Endo and Ecto Colonization, Cockroaches, Pathogenic Bacteria, Public Health

# PERCEIVED IMPACT OF SOCIAL MEDIA ADDICTION ON ACADEMIC PERFORMANCE OF UNDERGRADUATE STUDENTS IN UNEC.

**Pleasure N. Ogbonna, Jacinta O. Odoh, Peace N. Iheanacho**
Department of Nursing Sciences, College of Medicine, University of Nigeria, Enugu Campus
Correspondence: pleasure.ogbonna@unn.edu.ng

## ABSTRACT

**Background:** Social media is a digital platform and Applications that allow people to produce, share and interact with others online. The study examined the impact of social media on the Academic Performance of Undergraduate students of Faculty of Health Sciences, University of Nigeria, Enugu campus. The objectives of the study were to: assess the level of students' addictiveness to social media; determine the pattern of use of social media among undergraduate students; ascertain the impact of social media usage on academic performance of students; and identify factors that influence the use of social media among undergraduate students.

**Methods:** A cross-sectional descriptive research design was adopted for the study and multistage sampling technique was used to select 218 undergraduate students from the departments of Nursing and Radiography. A researcher developed questionnaire was used for the data collection. Data was collected and analyzed using SPSS/IBM version 28.

**Results:** Findings indicated that the overall addictiveness to social media among the respondents was a little above average (54.7%) and about one third (33.5) spend more than 3 hours on social media daily. The most used social media platform is YouTube (88.8%). Majority log into their social media account 5 – 10 times daily (31.2%) and most of them spend more than 1 hour per session (31.2). The preferred time of use was in the evening (33.0%). Majority spend their time chatting with friends (92.6%). The overall perceived impact of social media usage on the academic performance of majority of the respondents was negative (59.6%). The predominant factors influencing use of social media were: to stay connected with my family and friends who live far away (3.5±1.2); to relieve stress and boredom (3.3±1.1); social media being an integral part of daily routine (3.3±1.0) as well influence from friends and classmates that use social media (3.2±1.1).

**Conclusion:** The study highlights the need for students to develop responsible social media use habits. The students should be taught time management and stress management strategies.

**Keywords:** social media, undergraduate students, academic performance. Perceived social media impact

# AGE-SPECIFIC REFERENCE INTERVALS OF SERUM ANTI-MÜLLERIAN HORMONE AMONG REPRODUCTIVE-AGE WOMEN IN ENUGU, NIGERIA

**Uchechukwu Chisom,[1,2] Nnakenyi Ifeyinwa,[1,2] Meka Ijeoma,[1,2] Okwor Chika,[1,2] Nto-Ezimah Uloaku[1,2]**
1. Department of Chemical Pathology, Faculty of Basic Clinical Sciences, College of Medicine, University of Nigeria, Ituku-Ozalla Campus, Enugu, Nigeria.
2. Department of Chemical Pathology, University of Nigeria Teaching Hospital, Enugu, Nigeria.
**Correspondence:** chisom.uchechukwu@unn.edu.ng

## ABSTRACT

**Background:** Anti-Müllerian Hormone (AMH) is widely used in the assessment of ovarian function, reserve and reproductive potential, because of its minimal intra- and inter-cyclical variability compared with conventional reproductive hormones. However, interpretation of AMH levels requires population-specific reference intervals, which remain poorly documented among Nigerian women.

**Objective:** To establish age-specific reference intervals for serum anti-Müllerian hormone among reproductive-age women in Enugu, Nigeria.

**Methods:** This cross-sectional study established reference intervals for serum anti-Müllerian hormone among 120 apparently healthy women with proven fertility aged 18-45 years attending the Family Planning Clinic and Institute of Child Health, University of Nigeria Teaching Hospital (UNTH), Enugu. Eligible participants fulfilled predefined inclusion and exclusion criteria and were stratified into three age groups (18-25 years, 26-35 years, and 36-45 years) to account for age-related variation in AMH levels. Venous blood samples were collected during the early follicular phase (day-3 of menstruation), and serum AMH levels were analyzed using enzyme-linked immunosorbent assay (ELISA). Data analysis was performed using SPSS version 25.0. Normality was assessed using the Shapiro–Wilk test, while non-normally distributed variables were summarized using median and interquartile range. Age-stratified and pooled reference intervals for serum AMH were established using the non-parametric percentile method.

**Results:** The age-stratified day-3 serum AMH reference intervals were 0.13-4.36 ng/mL for women aged 18-25 years, 0.13-8.48 ng/mL for women aged 26-35years, and 0.13-6.62 ng/mL for women aged 36-45 years. The pooled reference interval was 0.13-8.20 ng/mL with a median value of 1.82 ng/mL. Day-3 serum AMH demonstrated a significant inverse correlation with age ($\rho = -0.256$, $p = 0.016$).

**Conclusion:** This study established preliminary age-specific and pooled reference intervals for day-3 serum AMH among apparently healthy reproductive-age women in Enugu, South-East Nigeria. The findings demonstrate age-related variation in serum AMH concentrations and highlight the importance of locally derived reference values for accurate interpretation of AMH results in Nigerian women.

**Keywords:** Anti-Müllerian hormone, infertility, ovarian reserve, reference interval, Nigerian women.

# GEOMETRY OF THE CERVICAL SPINE AT NNAMDI AZIKIWE UNIVERSITY TEACHING HOSPITAL, NNEWI ANAMBRA STATE, NIGERIA.

**Daniel Chimuanya Ugwuanyi[1] and Egwuonwu Victor Afamefuna [2]**
Affiliations
1. Department of Radiography and Radiological Sciences, Faculty of Health Sciences and Technology, NnamdiAzikiwe University, Nnewi Campus, Anambra State, Nigeria.
2. Department of Medical Rehabilitation (Physiotherapy),
Faculty of Health Sciences, Nnamdi Azikiwe University, Nnewi Campus, Nigeria

## ABSTRACT

**Background:** This study investigates the geometry of the cervical spine among patients at Nnamdi Azikiwe University, focusing on variations by vertebral level and gender.

**Materials and methods:** A total of 50 patients, comprising 31 females (62%) and 19 males (38%), aged between 18 and 75 years (mean age: 41.04 ± 14.32 years), were analyzed for key anatomical parameters including vertebral heights, anteroposterior diameters, intervertebral disc spaces, inter-pedicular distances, transverse diameters, and concavity indices across cervical levels C3 to C7.

**Results:** Revealed distinct patterns in vertebral dimensions, with variations in height and diameter across levels, particularly at C5 and C6. Gender-based analysis showed that males generally had greater vertebral dimensions than females, with statistically significant differences for most parameters. The findings emphasize the importance of considering vertebral-level and gender-specific characteristics when evaluating cervical spine anatomy.

**Conclusion:** Clinically, this study provides data to aid in diagnostics, personalized treatment planning, and surgical approaches by highlighting anatomical norms specific to this population. Future research should explore additional anatomical features, age-related changes, and cross-population comparisons to enhance the clinical applicability of these findings.

**Keywords:** Geometry, Cervical spine, vertebral dimensions and Gender based.

# THE EFFECTS OF TENOFOVIR-LAMIVUDINE-DOLUTEGRAVIR THERAPY ON SERUM AMINOTRANSFERASES IN HIV-POSITIVE SUBJECTS IN ENUGU METROPOLIS.

**Ikegwuonu Ifeoma Chinwe [1], Okafor Favour Chukwuelotam [1*]**
[1]Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria Enugu Campus. Enugu State.

*Correspondence: ifeoma.ikegwuonu@unn.edu.ng

## ABSTRACT

**Introduction:** Human Immunodeficiency Virus (HIV) infection remains one of the most significant global public health challenges, primarily due to its persistent impact on the immune system. In 2019, the World Health Organization (WHO) recommended Tenofovir–Lamivudine–Dolutegravir (TLD) as the preferred first-line ART regimen globally. This recommendation represented a paradigm shift in HIV treatment, driven by evidence of TLD's superior virologic efficacy, high genetic barrier to resistance, improved tolerability, and convenient once-daily dosing regimen. This study evaluated the effects of TLD therapy on serum aminotransferases in HIV-positive individuals in Enugu Metropolis.

**Materials and Methods**: A cross-sectional study was conducted at the University of Nigeria Teaching Hospital involving 70 participants divided into four groups: HIV-negative controls (n=20), HIV-positive ART-naïve subjects (n=10), HIV-positive subjects on TLD (n=20), and HIV-positive subjects on second-line ART (n=20). Anthropometric measurements (BMI, blood pressure) were recorded, and serum ALT and AST levels were analyzed using the kinetic method. Data were analyzed using SPSS version 25.0. ANOVA and student t-test were used to compare variables and $p<0.05$ as significant values.

**Results:** Results showed that ART-naïve subjects had the lowest BMI (21.00 ± 2.40 kg/m²), highest blood pressure (SBP: 144.20 ± 7.30 mmHg; DBP: 100.80 ± 12.89 mmHg), and significantly elevated liver enzymes (ALT: 13.00 ± 4.08 IU/L; AST: 11.40 ± 1.51 IU/L). Subjects on TLD therapy demonstrated normalized blood pressure (122.05/79.75 mmHg), normalized liver enzymes (ALT: 6.60 ± 3.63 IU/L; AST: 10.15 ± 3.23 IU/L) comparable to HIV-negative controls, and increased BMI (25.14 ± 2.55 kg/m²). No significant differences were observed between TLD and second-line ART groups in all parameters.

**Conclusion:** The study demonstrates that TLD therapy ameliorate the effect of the virus on hepatocellular cells and provide cardiovascular benefit.

**Keywords:** Tenofovir–Lamivudine–Dolutegravir (TLD), HIV positive Subjects, Aminotransferases, Enugu Metropolis.

# INVESTIGATION OF PROTECTIVE EFFECT OF *KALANCHOE PINNATA* EXTRACT [MIRACLE LEAF] ON THE HISTOMORPHOLOGY OF THE LIVER AGAINST CYCLOPHOSPHAMIDE INDUCED HEPATIC INJURY IN ALBINO RATS.

**AUTHORS: *Anulika Onyemelukwe and Nnajiofor Blessing Nneoma**
*Department of Medical Laboratory Science, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Enugu Campus.

**Correspondence:** anulika.onyemelukwe@unn.edu.ng

## ABSTRACT

**Background**: Liver injury presents a severe challenge due to its role in filtration of xenobiotics and metabolism, hence the need for plants derived and cost-effective alternatives.

**Aim:** This study evaluated the protective potential of *Kalanchoe pinnata* on the liver against cyclophosphamide induced toxicity using phytochemical, biochemical, and histopathological evidence.

**Method:** Twelve albino rats were divided into four groups of three rats each. Group A served as normal control, Group B received 200mg/kg cyclophosphamide intraperitoneally, Group C and D were pre-treated orally with aqueous extract of *Kalanchoe pinnata* at 200mg/kg and 400mg/kg respectively for seven days prior to 200mg/kg cyclophosphamide administration each. Blood specimens were collected from rats, and sera were obtained to determine liver function markers; Alkaline phosphatase[ALP], Alanine transaminase [ALT], and Aspartate transaminase [AST].Body weight, absolute and relative liver weight, and liver histology using Hematoxylin and Eosin staining were evaluated and data analyzed using SPSS version 21.0 with probability set at ($P \leq 0.05$).

**Result:** Phytochemical screening revealed the presence of flavonoids, terpenoids, saponins, and alkaloids. Pre-treatment with the extract showed improved structure, with low dose group showing inflammation of portal tract and moderate protection of tissue structure from cyclophosphamide lesions. In group D, hepatic cords, central vein, and portal tracts appeared to be normal with only minimal inflammatory cellular infiltration at the periportal regions. The reduced inflammation suggested enhanced stabilization of hepatocytes membrane and cellular regeneration.

**Conclusion:** In conclusion, findings from this study showed that *Kalanchoe pinnata* demonstrated dose dependent protective effect on liver tissues, indicating its therapeutic potential against cyclophosphamide induced hepatic injury

**Keywords;** *Kalanchoe pinnata, liver, cyclophosphamide, inflammation, hepatic injury*

# *PERCEPTION AND USE OF EDUCATIONAL TECHNOLOGY IN ACADEMIC LEARNING AMONG STUDENTS IN A UNIVERSITY'S COLLEGE OF MEDICINE.*

***Okezue** Obinna C **, Ezinwa** Clarance N **, John** Jeneviv N **, Mgbeojedo** Ukamaka G **, Ezeukwu** Obinna A **, Ekechukwu** Nelson E **, Ojukwu** Chidiebele P and **Ezema** Charles I .*
*Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus, Enugu State.*
***Correspondence:** tonyobeena@gmail.com*

## ABSTRACT

**Introduction:** Educational technology (EdTech) has become integral to health sciences education globally, offering accessible tools for academic support, assessment and simulation. However, its effective integration remains uneven across low- and middle-income countries, particularly within medical and allied health programmes where infrastructural and institutional limitations persist.

**Aim:** This study explored college of medicine (COM) students' perception and use of Educational technology in their academic learning activities.

**Methods:** A total of 251 COM students, comprising of 106 females and 145 males, were recruited via stratified sampling from the Faculties of Medicine, Dentistry and Health Sciences in University of Nigeria, Nsukka. These completed self-report questionnaires on their perception and use of EdTech towards academic learning. Data obtained were analysed descriptively in percentages and inferentially, using Chi-Square test. Level of significance was set at $p < 0.05$.

**Results:** Findings revealed positive perceptions amongst majority (82.1%) of the students. These undegraduates reported both moderate use of EdTech (55.4%) and good ICT proficiency (35.1%). Level of study was significantly associated with use of EdTech ($\chi^2 = 8.633$, $p = 0.009$). Poor electricity supply (96.4%), High cost of data (94.4%) and Limited procurement of facilities (94.0%) were reported as the major barriers to the use of EdTech towards academic learning.

**Conclusion:** Though there were predominant positive perception and moderate use of EdTech, it is vital to further enhance COM students' engagement especially among those in lower levels of study. Efforts should be made to improve access to EdTech by providing targeted institutional support and eradicating infrastructural barriers. These measures would help students to effectively engage in EdTech use, in order to bolster their academic learning.

**Keywords:** Educational technology, EdTech, Academic learning, Perception, Students

# PLAYERS' PERCEPTIONS OF MEDICAL TEAM COMPOSITION AND PHYSIOTHERAPY INVOLVEMENT IN SELECTED FOOTBALL CLUBS IN SOUTHEAST NIGERIA

**John Jeneviv N, Obinka Ogechi J, Okezue Obinna C, Mgbeojedo Ukamaka G, Nwosu Akachukwu O, Nwazuluoke Ebubechi C, Ojukwu Chidiebele P**
Department of Medical Rehabilitation, Faculty of Health Sciences and Technology,
University of Nigeria, Enugu Campus, Enugu State.

**Correspondence:** cynthia.john@unn.edu.ng

## ABSTRACT

**Background:** Football is associated with a substantial risk of injury, making access to qualified healthcare professionals essential for player safety, injury prevention, rehabilitation, and return-to-play decision-making. Physiotherapists are recognized globally as key members of multidisciplinary sports medicine teams; however, empirical evidence regarding their actual integration and functional involvement within football healthcare systems in Nigeria remains limited.

**Objective:** To examine the composition of football team medical personnel and assess physiotherapists' involvement in player healthcare among selected football clubs in Southeast Nigeria.

**Methods:** A cross-sectional survey was conducted among 81 football players from selected football clubs in Southeast Nigeria. A structured questionnaire was used to obtain information on medical team composition, injury management practices, interprofessional collaboration, and perceptions regarding physiotherapists' roles in football healthcare. Data were analyzed to elucidate the composition of football medical teams and the extent of physiotherapists' involvement in player health and injury management.

**Results:** Slightly over half of the respondents (54.3%) reported the existence of a formal medical team within their clubs, while 66.7% indicated that team healthcare personnel possessed appropriate qualifications and experience. Most participants (69.1%) reported effective collaboration among members of the medical team, and 55.6% acknowledged the presence of established injury-management protocols. Sports physicians (39.5%) and sports physiotherapists (38.3%) were the most commonly identified healthcare professionals. Notably, 59.3% of respondents believed that inadequate awareness of physiotherapy contributes to its underutilization within football settings**.** Despite this, the majority recognized physiotherapists as important contributors to the management of sports-related injuries.

**Conclusion:** The findings suggest that physiotherapists play an important role in football healthcare within the surveyed clubs. However, gaps in awareness and inconsistencies in the structure of medical teams may be limiting the delivery of comprehensive sports medicine services. Strengthening multidisciplinary healthcare models and increasing awareness of physiotherapists' contributions could enhance player welfare, injury management, and overall football performance in Nigeria.

**Keywords:** Football; Sports Physiotherapy; Player Welfare; Injury Prevention; Multidisciplinary Healthcare.

# PREVALENCE OF BODY DYSMORPHIC DISORDER AND ITS ASSOCIATION WITH PHYSICAL ACTIVITY PRACTICES AMONG FEMALE UNDERGRADUATE STUDENTS IN ENUGU STATE.

***Ojukwu Chidiebele Petronilla [1 2], Anyachor Ifeoma Ogoamaka[3], Eleje Chiedozie Uchenna[2]***

1. Department of Medical Rehabilitation, Faculty of Health Sciences and Technology University of Nigeria Enugu, Enugu state Nigeria.
2. Department of Physiotherapy, David Umahi Federal University of Health Sciences Uburu, Ebonyi State, Nigeria.
3. Department of Mental Health Nursing, Faculty of Nursing Sciences, David Umahi Federal University of Health Sciences Uburu, Ebonyi State.

## ABSTRACT

**Background**: Body Dysmorphic Disorder (BDD) has been identified as a mental health disorder that causes body image dissatisfaction and negative self- perception among young adult females. Despite the growing awareness of BDD and its potential consequences on mental health, well-being and academic performance, there is a deficiency of research on its prevalence and relationship with physical activity practices among female undergraduate students.

**Aim**: The study assessed the prevalence of BDD and its association with physical activity practices among female undergraduate students in Enugu.

**Methods**: This cross-sectional descriptive study was conducted among 282 female undergraduate students, recruited from university of Nigeria Enugu Campus. Socio demographic data was provided using a self-structured questionnaire. Body Dysmorphic Disorder questionnaire was used to determine the presence and extent of body image concerns while assessment of participants' physical activity levels across various domains was done using Global physical Activity Questionnaire. Prevalence of BDD and its associated physical activity levels were assessed using Descriptive statistics and Spearman's rank-order correlation respectively.

**Results:** A low prevalence of BDD (9.7%) was recorded with majority of participants (72.3% ) meeting the World Health Organization standard of physical activity There was no association *(p - 0.739 )* between BDD and physical activity .

**Conclusion:** Despite the low prevalence of BDD and its lack of association with physical activity practices, longitudinal studies with objective assessment measures are recommended for deeper exploration of these variables.

**Key words:** *Body Dysmorphic Disorder, Physical activity practices, Adult females, Enugu state, Nigeria*

# KNOWLEDGE, PERCEPTION, AND READINESS TOWARDS THE USE OF TELEMEDICINE IN HEALTHCARE DELIVERY AMONG NURSING UNDERGRADUATES OF UNIVERSITY OF NIGERIA, ENUGU CAMPUS

**Authors**: Ozofor, Chidubem Perpetual[1] & Chikeme, Paulina Chigwara[1*]
[1]*Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus. Enugu, Nigeria.*

**Corresponding author:** paulina.chikeme@unn.edu.ng

## ABSTRACT

**Background:** Telemedicine is rapidly transforming healthcare delivery, offering remote access to medical services and improving patient outcomes. However, its success depends on how well health care providers understand and perceive it and are willing to use it, hence the study.

**Material and Methods:** A descriptive survey approach was used in this investigation. Taro Yamane's technique was used to establish the sample size of 291 nursing undergraduates at levels 2 through 4. Respondents from various classes were chosen using a stratified sampling technique, including proportionate sampling, to guarantee representativeness. A self-created questionnaire with a reliability rating of 0.70 was used to gather data. The data that was gathered was subjected to descriptive statistics. The hypothesis was tested at the 0.05% significance level using Pearson correlation and an independent samples t-test.

**Results:** The results of this study demonstrated that students had a high degree of knowledge (86.3%) about telemedicine and its applications. 83.4% of them had a favourable opinion of telemedicine, and 90.3% of them indicated that they were prepared to adopt and employ telemedicine in their future positions. Knowledge and readiness to use telemedicine were significantly correlated ($p < .001$), and there was a substantial gender difference in telemedicine knowledge ($p = .015$), with females demonstrating greater understanding.

**Conclusions:** The results suggest that although knowledge and perception towards use are positive, gaps still exist in translating knowledge into full readiness for practical adoption. Therefore, educational intervention may be needed to improve readiness and ensure equitable preparedness across genders.

**Keywords**: Telemedicine, Knowledge, Perception, Readiness, Nursing Students

# INFLUENCE OF ACCEPTANCE AND UTILIZATION OF ELECTRONIC HEALTH RECORDS AMONG HEALTHCARE PROVIDERS ON THE QUALITY OF HEALTHCARE SERVICES IN TERTIARY HOSPITALS IN ENUGU STATE, NIGERIA

**Obimba Kennedy Chuks[1]; Obikeze Eric[1,2]**
1: Department of Health Administration & Management, Faculty of Health Sciences & Technology, College of Medicine, University of Nigeria, Enugu Campus

2: Health Policy Research Group, Department of Pharmacology & Therapeutics, College of Medicine, University of Nigeria, Enugu Campus

## ABSTRACT

**Background:** Electronic Health Records (EHRs) are increasingly being adopted globally to improve healthcare delivery, efficiency, and quality of services. Despite the potential benefits of EHR systems, their acceptance and utilization among healthcare professionals remain inconsistent in many developing countries, including Nigeria.

**Objective:** This study examined the influence of acceptance and utilization of Electronic Health Records among healthcare providers on the quality of healthcare services in tertiary hospitals in Enugu State, Nigeria.

**Methods:** A descriptive cross-sectional study design was employed among healthcare professionals in selected tertiary hospitals in Enugu State. Data were collected using structured questionnaires and analyzed using descriptive statistics, multiple regression, and logistic regression analyses at a significance level of p-value < 0.05.

**Results:** The findings showed significant relationships between socio-demographic characteristics and healthcare quality (p-value < .001), acceptance of EHR systems (p-value = .014), and utilization of EHR systems (p-value < .001). Significant predictors of EHR utilization included age, occupation, institution, and formal computer training. Doctors, nurses, and health information managers demonstrated higher likelihood of utilizing EHR systems compared to pharmacists. Formal computer training significantly improved EHR utilization among respondents.

**Conclusion:** The study concluded that acceptance and utilization of EHR systems significantly influence the quality of healthcare services. Strengthening computer training programs and institutional support are envisaged to improve EHR utilization and healthcare service delivery in tertiary healthcare institutions.

**Keywords:** Electronic Health Records, Healthcare Quality, EHR Acceptance, EHR Utilization, Healthcare Professionals, Nigeria

# PREVALENCE OF HIV INFECTION AMONG INTENDING BLOOD DONORS IN PUBLIC AND PRIVATE ORTHOPEDIC HOSPITALS IN ANAMBRA STATE: A COMPARATIVE ANALYSIS

**Ikechukwu V. Obi[1], Bernice A. Ogolo[2], , Helen N. Uzoegbo[3], Kester O. Obieze[4], Gloria C. Osegbue[5]**
Department of Public Health, University on the Niger, Umunya, Anambra State[1]
Department of Public Health, Tansian University Umunya, Anambra State[2]
College of Nursing, Nnamdi Azikiwe University Teaching Hospital, Nnewi[3]
Department of Medical Laboratory Sciences, Nnamdi Azikiwe University Teaching Hospital, Nnewi[4]
Department Educational foundation, Chukwuemeka Odumegwu Ojukwu University, Igbariam[5]

## ABSTRACT

**Background:** Human Immunodeficiency Virus (HIV) is a global public health challenge and Nigeria has one of the highest burdens of the infection. Most of the studies on prevalence of HIV in intending blood donors were carried out in public health hospitals. There are paucity of data on the prevalence of HIV in intending blood donors in private orthopedic health facilities who are major consumers of blood.

**Objective:** To determine the prevalence of HIV infection in donated blood in Public and Private Orthopedic health facilities and compare both prevalence rates

**Materials and Method:** A cross-sectional study designed to determine the prevalence of HIV infection among 329 healthy intending blood donors in public (209) and Private (120) Orthopedic Hospitals in Anambra State, Nigeria. The data was analyzed using descriptive statistics and SPSS version 25 was used to calculate the chi-square. The level of significance was set at 95% confidence interval ($p< 0.05$).

**Results:** The prevalence of HIV infection were 11/209 (5.3 %) and 3/120 (2.5%) respectively in public and private facilities with a higher prevalence in public health facilities but no significant difference ($\chi^2 = 1.429$; df = 1; $P = 0.183$) was found in their prevalence rate. These findings suggest an observed trends rather than a definitive association.

**Conclusion:** The prevalence of HIV infection in this study were high and comparable to the Nigerian HIV prevalence rate national average especially the value from the Public Orthopedic health facility. However, there was no significant difference in the prevalence rate between the hospital types

# BIOCHEMICAL ALTERATIONS IN LIVER AND KIDNEY FUNCTION INDICES, FOLLOWING EXPOSURE TO ENDOCRINE DISRUPTING CHEMICAL CONTAMINATED WATER IN ALBINO RATS IN ENUGU

**Duru Chika R[1], Okafor Agatha N[1], Adum Emmanuel O[1], Ijeoma Philip I[1], Okpagu Blessing C[2], Okwuosa Chukwugozie N[2], Achukwu Peter U[2],**
[1] Department of Chemical Pathology, UNTH, Ituku Ozalla, Enugu.
[2]Department of Medical Laboratory Science, Faculty of Health Science and Technology, University of Nigeria
Enugu Campus. Enugu State Nigeria.

**Correspondence**: duruchikar@gmail.com,

## ABSTRACT

**Background:** Endocrine disrupting chemicals (EDCs) are environmental pollutants capable of interfering with hormonal and metabolic functions in humans and animals. Sustained exposure to them through industrial and e-waste polluted media has been associated with hepato-renal dysfunctions.

**Objectives:** This study assessed the impact of EDC on albino rats fed with contaminated dumpsite water in Enugu

**Methods:** A controlled experimental study. Thirty-six albino rats were randomly divided into exposed and control groups. The former were fed with different concentrations of EDC-contaminated water obtained from three dumpsite water ways for 60 days, while the latter had clean water and standard feed. Blood samples were collected and analyzed after exposure period for the levels of Urea, Creatinine, ALT, AST, Mercury and Chromium using standard laboratory methods. Data were analyzed using Graph Pad Prism software version 9, with significance considered at $p< 0.05$.

**Results:** The mean values in rats fed with high doses, their controls with p values were: Urea: 7.7, 2.6,(mmol/l), p = 0.005, Creatinine: 93.7, 47.5 ($\mu^{\mu}$mol/l) p = 0.008, ALT: 69.0, 36.6 (IU/l), p = 0.001, AST: 69.5 , 39.6 (IU/l), p = 0.003, Mercury: 0.04, 0.02 (mg/L), p = 0.018, Chromium: 0.05 , 0.02 (mg/L) p = 0.001, respectively. There were significant differences across all the parameters matched with their controls. However, different EDC exposures showed no significant difference in both sexes.

**Conclusion:** Exposed rats showed significant elevation in all the parameters measured, indicating that EDC exposure induces heavy metal accumulation and significant organ damage. These findings have proved the toxicological effects of EDCs in aquatic environments. Therefore, a policy regulation and enforcement of dumping practices in Enugu is strongly recommended.

**Key words:** EDC, Urea, Creatinine, ALT, AST.

# THE EFFECT OF METFORMIN ON SERUM INTERLEUKIN-6, ADVANCED GLYCATION END-PRODUCTS, LIPID PROFILE, AND ANTIOXIDANT STATUS IN ADULT WISTAR RATS FED AGE-RICH DIETS

**OMENUKO,L. C.[1], MBAH, A.U.[1], NWADIKE ,K.I.[1]*, NUBILA, N.I.[1], OLIBE, A.O.[2]**
[1]Department of Pharmacology and Therapeutics, Faculty of Basic Clinical Sciences, University of Nigeria, Enugu Campus
[2]Department of Obstetrics and Gynecology, University of Nigeria Teaching Hospital (UNTH), Ituku/Ozalla, Enugu State, Nigeria

**Correspondence:** kenneth.nwadike@unn.edu.ng;

## ABSTRACT

**Background:** Advanced glycation end-products (AGEs) are harmful compounds formed in the body and also introduced through heavily heated or processed foods. Their accumulation may promote inflammation, oxidative stress, and metabolic disturbance. Metformin is widely used in type 2 diabetes, but it also has anti-inflammatory and antioxidant properties.

**Objective:** This study examined whether metformin could reduce the adverse effects of an AGE-rich diet in non-diabetic Wistar rats.

**Method:** Forty adult male Wistar rats were divided into eight groups of five rats each. Four groups received a normal diet, while the remaining four were fed an AGE-rich diet containing cheese and red meat. Within each diet category, the rats received either no metformin or metformin at doses of 100, 200, or 400 mg/kg for four weeks after dietary induction. Serum interleukin-6 (IL-6), pentosidine, lipid profile, antioxidant enzymes, and liver and kidney function markers were then assessed.

**Result:** The AGE-rich diet produced clear signs of metabolic stress, including increased pentosidine, triglycerides, and markers of liver and kidney injury. Metformin reduced AGE accumulation and inflammation, with significant decreases in pentosidine and IL-6 compared with baseline values ($p<0.001$). It also improved antioxidant defence by increasing glutathione and superoxide dismutase activity, especially at the lower and middle doses. In addition, lipid profile and renal indices improved, and no major dose-related toxicity was observed.

**Conclusion**: Metformin appeared to protect against the metabolic disturbances caused by AGE-rich diets in non-diabetic rats. It reduced AGE burden, inflammation, and oxidative stress while supporting overall metabolic balance. These findings suggest that metformin may have beneficial effects beyond glucose control, particularly in protecting against diet-related AGE complications.

**Keywords:** Advanced glycation end-products, metformin, interleukin-6, pentosidine, oxidative stress, Wistar rats

# PIONEERING VISION 2.0: LAYING THE FOUNDATIONS FOR NEXT-GENERATION OPTOMETRIC EDUCATION, RESEARCH, AND CLINICAL PRACTICE

***Enechi Gilbert O* Nwakuche Ikechukwu P, Udo Ahanna U***
Department of Optometry, Faculty of Health Sciences and Technology, University of Nigeria
Email: gilbert.enechi@unn.edu.ng
Department of Optometry, Bayero University Kano Email: ipnwakuche.opt@buk.edu.ng
Faculty of Optometry, Abia State University, Uturu.
Email: udo.ubani@abiastateuniversity.edu.ng

## ABSTRACT

**Background:** Global eye care is undergoing a transformative digital paradigm shift, termed "Vision 2.0" and is driven by rapid advancements in artificial intelligence (AI), tele-optometry, and immersive simulations. For a newly establishing optometry department making its inaugural academic outing, this technological evolution presents a unique strategic opportunity to leapfrog legacy, manual diagnostic methodologies and embed modern, data-driven competencies directly into its foundational framework from inception.

**Objective:** This paper outlines a comprehensive roadmap for integrating these emerging technologies within a launching optometry program to align student training, faculty research, and clinical delivery with 21st-century healthcare standards.

**Methods /Framework:** The "Vision 2.0" framework is structured across three core institutional pillars:

- Pedagogical Innovation: Leveraging virtual reality (VR) simulators to accelerate student mastery of complex clinical skills in a risk-free environment.
- Clinical Decentralization: Deploying low-cost smartphone-based ocular imaging and cloud-based AI triage algorithms to expand high-quality eye care access to underserved and remote populations.
- Translational Research: Introducing big data and oculomics by using retinal biomarkers to predict systemic cardiovascular and neurodegenerative risks, as core elements of undergraduate inquiry.

**Results:** By intentionally bypassing outdated clinical structures, a nascent program can significantly optimize resource allocation, drastically reduce the high capital expenditure traditionally required for legacy hardware, and accelerate student clinical competency. Furthermore, native integration of tele-optometry prepares graduates to immediately address regional disparities in eye care distribution.

**Conclusion:** Embracing the Vision 2.0 framework transforms the inherent challenges of a launching program into a distinct evolutionary advantage. Prioritizing this tech-first approach positions the new department as a forward-thinking hub, setting a modern standard for health sciences education, collaborative research, and transformative clinical practice.

**Keywords**: Vision 2.0, Optometric Education, Tele-Optometry, Artificial Intelligence, Oculomics.

# TRACING THE SHADOW INFRASTRUCTURE: HOW INFORMAL MOBILE-PHONE USE RECONFIGURES DISEASE-CONTROL WORKFLOWS- A PROCESS-TRACING STUDY OF 199 WORKFLOW EPISODES IN ENUGU STATE, NIGERIA

**Chikezie Adolf Nwankwor[1], Ijeoma Lewechi Okoronkwo[1]**
*1Department of Health Administration and Management, Faculty of Health Sciences and Technology, University of*
*Nigeria, Enugu Campus*
**Correspondence:** chikezie.nwankwor@unn.edu.ng

## ABSTRACT

**Background:** Where formal digital systems are patchy, frontline workers improvise with personal phones to keep disease-control work moving. Surveys count how often this happens, not how a single call changes what comes next. That causal step has stayed invisible, leaving managers unable to see or support the digital layer already running beneath formal practice.

**Objectives:** To trace, case by case, the workflow mechanisms through which informal phone use produces operational effects in disease-control programmes, and to test whether they are distinct or merely variants of one generic phone-use process.

**Methods:** Structured process tracing (Beach & Pedersen; Van Evera tests) was applied to 199 valid trigger–mechanism–outcome episodes from frontline workflow logs across five tracer programmes (HIV/AIDS, tuberculosis, malaria, diabetes, hypertension). Each mechanism was tested against rival explanations and triangulated with focus-group and key-informant evidence; communication-modality shares (voice, SMS, browsing, WhatsApp) distinguished the mechanisms.

**Results:** Five distinct mechanisms surfaced- defaulter recovery (M1, n=21), clinical consultation (M2, n=45), result-expediting (M3, n=26), adherence recovery (M4, n=23) and contact tracing (M5, n=5) covering 120 of 199 episodes (60.3%), each with a unique modality fingerprint (browsing in M2 ≈4× baseline, SMS in M4 ≈3×, WhatsApp in M5 ≈20×). All passed every hoop and one smoking-gun test (M1–M3 strong; M4–M5 moderate-to-strong). Every logged outcome was positive, but the log was positive-selected; qualitative evidence supplied the missing disconfirmation after-hours intrusion, confidentiality risk, and undercounted phone-mediated work.

**Conclusion:** Informal phone use does not sit beside disease-control workflows; it rewires them at the process layer, performing five functions that formal systems are meant to deliver. Naming and measuring these mechanisms turn an invisible shadow infrastructure into something a health system can manage- through mechanism indicators in supervision and phone-mediated tasks folded into formal reporting.

**Keywords:** process tracing; informal mHealth; workflow mechanisms; shadow digital infrastructure; causal inference; disease control; Nigeria.

# CONCURRENT USE OF ORTHODOX AND HERBAL MEDICINE AMONG HOSPITAL ATTENDEES IN NATIONAL ORTHOPEDIC HOSPITAL ENUGU

**Agu, Jennifer Ogechukwu & Chikeme, Paulina Chigwara***
*Department of Nursing Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Enugu Campus.*

**Correspondence:** jennyagu2@gmail.com

## Abstract

**Background:** The use of both orthodox and herbal medicine is a widespread practice in many parts of the world, especially in developing countries like Nigeria where cultural traditions and accessibility strongly influence health-seeking behaviour. This study examined the concurrent use of orthodox and herbal medicine among hospital attendees in National Orthopedic Hospital Enugu.

**Material and Methods:** In this cross-sectional study, 154 hospital attendees comprising both inpatients and outpatients were recruited using convenience sampling technique. Data collection was through a structured researcher-developed and validated questionnaire. Descriptive and inferential statistics were used for data analysis. while binary logistic regression was used to test the hypothesis at 5% level of significance. For scaled items, a mean score > 2.5 was accepted.

**Results:** The prevalence of concurrent use of herbal and orthodox medicine was 45.1% for lifetime, 32.4% for the same-health-condition, and 9.9% for the present-health-condition. The patients' reasons for concurrent use of herbal and orthodox medicine were mainly that herbal medicine is part of their culture/traditional practice, is more available and affordable. The major reasons for choosing orthodox medicine when sick were its hygienic preparation, clear dosage, the medicine having been well studied and approved, and personal preference, while herbal use was driven by personal preference, affordability, and naturalness. The chance of concurrent use increased 3.2-fold as their educational level decreased from tertiary to secondary, primary, and no formal education, respectively.

**Conclusion:** This study showed that lower educational status influence health-seeking behavior hence, targeted health education programs be implemented for people secondary, primary and no formal education.

**Keywords**: Concurrent use, Herbal medicine, Orthodox medicine, Prevalence, Hospital attendees

# PATTERNS, CIRCUMSTANCES, AND PREVENTION OF UNINTENTIONAL INJURIES AMONG CHILDREN PRESENTING TO A SECONDARY HEALTH FACILITY IN ENUGU STATE, NIGERIA

**[1]Chime Paschal Uwadiegwu, [1]Onyia Tony Jude**
[1]Department of Paediatrics, Faculty of Clinical Sciences, College of Medicine, UNN, Ituku/Ozalla Campus

## ABSTRACT

**Background**: Unintentional injuries are a leading cause of preventable morbidity and mortality among children globally, with a higher burden in low- and middle-income countries. However, limited data exist on their epidemiology and circumstances in secondary healthcare settings in southeastern Nigeria. This study assessed the pattern and contextual factors of unintentional childhood injuries presenting to Udi General Hospital, Enugu State, Nigeria.

**Methods:** A facility-based descriptive cross-sectional study was conducted among 300 caregivers of children aged 0–17 years presenting with unintentional injuries. Data were collected using a structured questionnaire covering sociodemographic characteristics, injury types, causes, locations, and contextual factors such as supervision and environment. Data were analyzed using descriptive statistics and presented as frequencies and percentages.

**Results**: Falls were the most common injury type (40.0%), followed by burns (21.7%), road traffic injuries (18.3%), poisoning (11.7%), and foreign body ingestion (8.3%). Children aged 0–4 years accounted for the highest proportion of cases (36.7%), and males were more frequently affected (56.7%). The majority of injuries occurred at home (55.0%), and 61.7% occurred in the absence of adequate adult supervision. The findings highlight younger age, male sex, unsafe home environments, and inadequate supervision as major contextual factors associated with injury occurrence.

**Conclusion:** Unintentional childhood injuries in this setting are predominantly due to falls, burns, and road traffic incidents, with the home being the most common site of occurrence. Strengthening caregiver supervision, improving household safety practices, and enhancing community awareness are key strategies for reducing the burden of childhood injuries.

**Keywords**: Unintentional injuries, Children, Injury patterns, Caregiver supervision; Enugu State.

# CO-TREATMENT OF VITAMIN E AND QUERCETIN PROTECTS AGAINST PIROXICAM-INDUCED LIVER AND REPRODUCTIVE TOXICITY IN MALE WISTAR RATS.

**Okafor K.O[1*], Katchy N.A[1], Nweke M.L, Orizu I.A[1], Nwannadi V.I, Ugwu A.U[2],Enweani C.N[1]**

[1]Department of Physiology, Faculty of Basic Medical Sciences, College of Medicine, University of Nigeria, Enugu campus,

[2]Department of Anatomy, Faculty of Basic Medical Sciences, College of Medicine, University of Nigeria, Enugu campus.

**Correspondence: okafor.oluchi@unn.edu.ng;**

## ABSTRACT

**Background:** Piroxicam, a widely used nonsteroidal anti-inflammatory drug (NSAID), is effective in managing pain and inflammation associated with arthritis and other musculoskeletal disorders. However, prolonged use has been associated with hepatic and reproductive toxicity mediated by oxidative stress. The combined protective effects of antioxidants such as Vitamin E and Quercetin against piroxicam-induced toxicity remain insufficiently explored.

**Objective:** This study investigated the protective role of co-treatment of Vitamin E and Quercetin against Piroxicam-induced liver and reproductive toxicity in male Wistar rats.

**Method:** Twenty-four adult male Wistar rats were divided into five groups: control, piroxicam (40 mg/kg), Piroxicam + Vitamin E (200 mg/kg), Piroxicam + Quercetin (200 mg/kg), and Piroxicam + Vitamin E + Quercetin. Treatments were administered orally for four weeks. Serum liver enzymes (ALT, AST, ALP, and bilirubin), antioxidant parameters (SOD, GSH, and total antioxidant capacity), and reproductive hormones (FSH, LH, estrogen, and progesterone) were evaluated using standard biochemical methods and ELISA. Histological examinations of liver and testicular tissues were also performed.

**Result:** Piroxicam significantly ($P < 0.05$) elevated liver enzyme levels and reduced antioxidant enzyme activities and reproductive hormone concentrations compared to the control group. Co-administration of Vitamin E or Quercetin ameliorated these alterations, while combined treatment produced the most pronounced protective effect. Histological findings corroborated the biochemical results, showing restoration of normal liver and testicular architecture following antioxidant supplementation.

**Conclusion:** Co-treatment with Vitamin E and Quercetin provided the highest protection against Piroxicam-induced hepatic and reproductive toxicity, suggesting a synergistic effect in preventing NSAID-induced liver and reproductive toxicity.

**Keywords:** Piroxicam, Vitamin E, Quercetin, reproductive hormones, liver enzymes oxidative stress, Wistar rats.

# EFFECTS OF AEROBIC EXERCISE ON INFLAMMATORY BIOMARKERS, PAIN INTENSITY, AND QUALITY OF LIFE IN PATIENTS WITH NON-SPECIFIC CHRONIC LOW BACK PAIN: A RANDOMIZED CONTROLLED TRIAL

**Nweke Vincent Chinonso[1], Kadiree Ekundayo Fatai[4], Anelechi Kenneth Madume[2], Chidiebele P Ojukwu[1,3], Adaeze Imelda Onyekwelu[3], Nweke Queeneth kadilobari[4], Nweke Augustine Chidera[5], Charles I. Ezema[1]**

[1] Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, University of Nigeria, Nsukka, Nigeria, [2]Rivers Dept of Physiotherapy, Faculty of Basic Medical Sciences, College of Medical Sciences, Rivers State University, Port Harcourt, [3] Physiotherapy Department, David Umahi Federal University of Health Sciences, Uburu, Ebonyi State, Nigeria, [4]School of nursing and midwifery, D-Line porthacourt, Rivers state, [5]Department of Medical Rehabilitation Nnamdi Azikiwe University.

## ABSTRACT

**Background:** Non-specific chronic low back pain (NSCLBP) is a leading cause of disability worldwide and has been associated with low-grade systemic inflammation. This study investigated the effects of aerobic exercise on inflammatory biomarkers, pain intensity, and quality of life among individuals with NSCLBP.

**Methods:** A parallel-group randomized controlled trial was conducted among 41 participants with NSCLBP who were randomly allocated to an aerobic exercise plus health education group (n = 21) or a health education-only control group (n = 20). Outcome assessors and laboratory personnel were blinded to treatment allocation. Participants in the intervention group completed supervised aerobic cycling three times weekly for 12 weeks in addition to health education, while control participants received health education alone. Outcomes were assessed at baseline, Week 8, and Week 12.

**Results:** Despite randomization, baseline age and IL-6 concentrations differed significantly between groups. Significant Time × Group interaction effects were observed for TNF-α ($p = 0.046$), IL-6 ($p < 0.001$), hs-CRP ($p < 0.001$), and pain intensity ($p < 0.001$). Significant improvements were also observed across all WHOQOL-BREF domains (all $p < 0.05$). After adjustment for baseline values and age, ANCOVA confirmed significantly lower Week 12 IL-6 ($p = 0.013$), hs-CRP ($p < 0.001$), and pain intensity ($p < 0.001$) in the intervention group.

**Conclusion:** Aerobic exercise in addition to health education was associated with significant improvements in inflammatory biomarkers, pain intensity, and quality of life among individuals with non-specific chronic low back pain compared with health education alone. These findings support the incorporation of structured aerobic exercise into rehabilitation programmes for chronic low back pain.

**Keywords:** Non-specific chronic low back pain; aerobic exercise; inflammation; IL-6; hs-CRP; pain intensity; quality of life; randomized controlled trial.

# THE EXPRESSION OF CEA IN THE TUMOR MICROENVIRONMENT PROMOTES COLORECTAL CANCER PROGRESSION AND METASTASIS: ITS DIAGNOSTIC POTENTIAL AND ROLE IN DISEASE STAGING.

**Ikenna Uchendu[1,2]* and Marina Sekacheva[2]**
[1]Department of Medical Laboratory Science, Faculty of Health Science and Technology, College of Medicine, University of Nigeria, Enugu Campus, Enugu 410001, Nigeria.
[2]Institute of Personalized Oncology of the Scientific and Technological Park of Biomedicine, Sechenov First Moscow State Medical University of the Ministry of Health of the Russian Federation (Sechenov University), Russia.

***Correspondence:** ikenna.uchendu@unn.edu.ng

## ABSTRACT

**Background**: The heterogeneous characteristic of colorectal cancer (CRC) indicates the need for early detection, the development of new therapeutic targets, and more advanced therapy. Investigating circulatory cytokines in addition to cancer-specific biomarkers can boost and expedite cancer prediction and detection. Several malignancies have high amounts of the biomarker, carcinoembryonic antigen (CEA). The role of CEA in colorectal cancer disease staging has not been evaluated.

**Objective**: The purpose of this study is to evaluate the pattern of CEA expression and its role in CRC staging in colorectal cancer patients.

**Methods**: In this cross-sectional study, Luminex xMAP 200 was used to determine serum cytokine profiles in 91 CRC stages I–IV patients and 100 healthy controls, identifying diagnostic indicators. The STRING database was used for protein-protein interaction, Gene Ontology, and KEGG analysis. Mann-Whitney U and Kruskal-Wallis H tests were used to compare groups; heatmap and receiver oerating characteristic (ROC) were used to analyze cytokine-CRC relationships.

**Results**: Leptin level was lower in CRC patients, and then higher pro-tumorigenic mediators such as CEA, HGF, IL-8, TNF-α, VEGF, SCF, and prolactin. CRC was significantly impacted by CEA ($p=0.01$), HGF ($p=0.01$), IL-8 ($p=0.01$), prolactin ($p=0.004$), and other variables. Prolactin and IL-8 increased gradually with disease burden, HGF showed early non-monotonic rise, and CEA levels increased stage-dependently ($p=0.01$). Bioinformatics analysis demonstrated that LEP, FAS, CEACAM5, CXCL8, HGF, TNF, PRL, KITLG, KRT19, TGFA, VEGFA, and WFDC2 were key genes connected to CRC. Enrichment analysis indicated receptor signaling, cell proliferation, extracellular localization, and growth factor participation, including MAPK, PI3K-Akt, JAK-STAT, Ras, and cytokine linkages, critical for cancer development.

**Conclusion**: The current study suggests CEA is strongly associated with CRC but lack proven specificity; larger studies with disease controls are needed to confirm diagnostic utility.

**Key words**: colorectal cancer, cytokine, CEA, biomarkers, cancer staging

# INTERLEUKIN-10 LEVEL IN PREGNANT WOMEN WITH ASYMPTOMATIC BACTERIURIA ATTENDING UNIVERSITY OF NIGERIA TEACHING HOSPITAL (UNTH)

**Seto Tunrayo Aladenika[1], Emmanuella Kosisochukwu Eze[1]**

Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology University of Nigeria, Enugu Campus seto.aladenika@unn.edu.ng Mobile No.+2347031636363

## ABSTRACT

**Background:** Asymptomatic bacteriuria (ASB) in pregnancy is associated with adverse outcomes including preterm labour and pyelonephritis if untreated. Interleukin-10 (IL-10), an anti-inflammatory cytokine, regulates immune response to urinary tract infections, yet its level among pregnant Nigerian women with ASB remains underexplored.

**Objective:** To determine and compare serum IL-10 levels in pregnant women with and without asymptomatic bacteriuria attending the antenatal clinic at UNTH, and evaluate associations with gestational age and parity.

**Methods:** A cross-sectional comparative study was conducted among 120 consenting pregnant women. Mid-stream urine was cultured for significant bacteriuria ($\geq 10^5$ CFU/mL), with isolates identified by standard methods. Serum IL-10 was quantified by ELISA. Data were analysed using SPSS version 25, with Student's t-test and Pearson correlation; significance was set at $p<0.05$.

**Results:** Of 120 women screened, 28 (23.3%) had asymptomatic bacteriuria, with *Escherichia coli* (39.3%) as the predominant isolate. Mean serum IL-10 was significantly higher in the ASB-positive group (52.4 ± 8.6 pg/mL) than the ASB-negative group (31.7 ± 6.2 pg/mL) ($p=0.001$). IL-10 correlated positively with gestational age ($r=0.42$, $p=0.03$) but not with parity ($p=0.21$).

**Conclusion:** Asymptomatic bacteriuria in pregnancy is associated with elevated serum IL-10, suggesting an upregulated immunoregulatory response to subclinical colonization. Routine antenatal urine screening and cytokine profiling may aid early detection and management.

***Keywords:*** *Interleukin-10, asymptomatic bacteriuria, pregnancy, cytokine response, urinary tract infection*

# PREVALENCE, ETIOLOGIC AGENTS AND RISK FACTORS OF ONYCHOMYCOSIS AMONG FARMERS IN ENUGU, NIGERIA

**Ebere Adaeze Onyebueke[1],** Cynthia Chekwube Ogili[1]

[1]Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Enugu Campus

Correspondence: ebere.onyebueke@unn.edu.ng

## ABSTRACT

**Background:** Onychomycosis (fungal infection of the fingernails or toenails) causes discoloration, disfiguring, thickening, brittleness, crumbling, itching, of the nails, making them look unattractive. Fungi, mostly dermatophytes, have been reported in previous studies as the major cause of onychomycosis. Many farmer's hands and feet are always in contact with soil where most fungi habit.

**Method:** This study investigated 144 male and female farmers with one or more signs and symptoms of onychomycosis randomly selected from three local government areas in Enugu. The study was carried out from March to May, 2025. Nail clippings and nail bed scrapping samples were collected from the toes and finger nails showing signs and symptoms of onychomycosis in the affected farmers. The samples were cultured onto appropriate media, incubated and growths observed were identified using standard mycological methods.

**Result:** Out of the 144 farmers investigated, 77(53.5%) were positive for onychomycosis. Males recorded higher prevalence for onychomycosis 50/91(54.9%) than females 27/53(50.9%). The age group 41-50 years recorded the highest prevalence for onychomycosis 24/35(68.6%). Gender and age group differences were not statistically significant ($p > 0.05$, p-values = 0.718 and 0.545 respectively). Of the 84 fungal isolates obtained, *Aspergillus niger* was the most frequent 42(50.0%) followed by *Penicillium* spp 8(9.5%), *Trichophyton* spp 6(7.1%), *Aspergillus flavus* 5(6.0%), *Aspergillus fumigatus*, *Trichophyton mentagrophytes*, *Rhizomucor* spp, *Candida tropicalis*, *Candida albicans* 4(4.8%) each, *Epidermophyton floccosum*, *Candida pseudotropicalis*, *Absidia* spp 1(1.2%) each.

**Conclusion:** Demographic variables investigated showed no association with onychomycosis. Proper washing of fingernails and toenails by farmers after farm work is recommended.

**Key words:** Prevalence, Ethiology, Onychomycosis, farmers.

# COMPARISON OF THE PREVALENCE OF MUSCULOSKELETAL PAIN AND STRESS BETWEEN CLINICAL AND PRECLINICAL PHYSIOTHERAPY STUDENTS OF THE UNIVERSITY OF NIGERIA, ENUGU CAMPUS.

**Ejim,Vida Anuli, Uduonu, Ekezie. M**
Department of Medical Rehabilitation, Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus

**Correspondence:** ekezie.uduonu@unn.edu.ng

## ABSTRACT

**Background:** Musculoskeletal pain (MSP) is common among physiotherapy students and may be influenced by stress and academic or clinical activities.

**Objective:** This study examined MSP prevalence, stress levels, and their relationship among preclinical and clinical students at the University of Nigeria, Enugu Campus (UNEC).

**Method:** A cross-sectional design was used with 421 students selected through purposive sampling. Musculoskeletal Pain (MSP) was assessed using the Numerical Pain Rating Scale (NPRS), while stress was measured with the Student Stress Inventory (SSI). Descriptive statistics summarized participant characteristics, and Independent Samples t-tests and Chi-square tests evaluated differences and associations.

**Result:** MSP was highly prevalent among both preclinical and clinical students, with clinical students reporting significantly higher pain intensity ($t = 2.246$, $p = 0.025$). Stress levels did not differ significantly ($t = 1.387$, $p = 0.166$). Chi-square analyses showed no significant association between stress and MSP ($p > 0.05$), though the Linear-by-Linear test indicated a significant trend ($p = 0.029$).

**Conclusion:** MSP is widespread, particularly in clinical years, highlighting the need for strategies to reduce discomfort and support student well-being.

**Key words:** Musculoskeletal pain, prevalence, preclinical, clinical, students.

# A SCOPING REVIEW ON REHABILITATION APPROACHES TO HIV-RELATED PERIPHERAL NEUROPATHY: IMPLICATIONS FOR THE SUB-SAHARAN AFRICAN HIV HEALTHCARE.

Martins Nweke, Chiedozie Eleje
Correspondence: martins.nweke@gmail.com

## ABSTRACT

**Background:** HIV-related peripheral neuropathy is a common complication of HIV infection that predisposes people living with the virus to activity limitations and participation restrictions. In sub-Saharan Africa, healthcare systems have inadequately integrated rehabilitation into the management of chronic HIV-related conditions such as HIV-related peripheral neuropathy. Furthermore, limited attention has been given to facilitating the reintegration of affected adults into their communities. A rehabilitation-focused healthcare approach is essential for addressing the chronic complications of HIV in the region.

**Objective:** This scoping review mapped the available evidence on rehabilitation approaches used in the management of HIV-related peripheral neuropathy among adults.

**Methods:** A scoping review was conducted following established methodological frameworks. Relevant studies meeting the predefined inclusion criteria were identified, and the findings were interpreted with particular emphasis on the sub-Saharan African context. Electronic databases including MEDLINE, PEDro, CINAHL, PsycINFO, ProQuest, OVID, SPORTDiscus, and Google Scholar were systematically searched for peer-reviewed literature. Three independent reviewers screened studies and extracted data using predefined eligibility criteria and a standardized data-charting form. The study selection process was reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR), including reasons for study exclusion. Methodological quality was assessed using the Mixed Methods Appraisal Tool (MMAT). Data were analyzed thematically using NVivo software, and findings were synthesized according to the review objectives.

**Results:** The review identified a range of rehabilitation interventions used in the management of HIV-related peripheral neuropathy, including physiotherapy, exercise-based interventions, pain management strategies, multidisciplinary rehabilitation, and patient education. Although these approaches demonstrated potential benefits in improving pain, functional mobility, balance, quality of life, and participation, the evidence originating from sub-Saharan Africa was limited. Significant gaps were identified in the implementation, accessibility, and evaluation of rehabilitation services within HIV care systems across the region.

**Conclusion:** This review established a comprehensive evidence base on rehabilitation interventions for adults living with HIV-related peripheral neuropathy and highlighted important gaps in research and clinical practice within sub-Saharan Africa. The findings underscore the need to integrate rehabilitation into routine HIV care, strengthen multidisciplinary service delivery, and promote context-specific research to improve functional outcomes and community participation for affected individuals. The review provides valuable

evidence to inform healthcare professionals, researchers, caregivers, and policymakers in advancing rehabilitation services for people living with HIV-related peripheral neuropathy.

**Systematic review registration**: This review was registered with OSF Center for Open Science

**Keywords**: HIV, nervous system, peripheral, therapy, rehabilitation, intervention, sub-Saharan Africa

# PERCEIVED CAUSES OF AND SOLUTIONS TO SCHOOL AUTHORITY ANXIETY AMONG UNDERGRADUATES OF THE UNIVERSITY OF NIGERIA, ENUGU CAMPUS

**Chijioke Oliver Nwodoh* and Favour Chibuzor Ikechukwu**
Department of Nursing Sciences, Faculty of Health Sciences and Technology, College of Medicine, University of Nigeria, Enugu Campus

**Correspondence:** chijioke.nwodoh@unn.edu.ng

## ABSTRACT

**Background:** School authority anxiety, characterized by fear or uneasiness during interactions with lecturers and other academic authorities, may adversely affect students' academic engagement, communication, psychological well-being, and academic performance. However, evidence on this phenomenon remains limited within Nigerian universities.

**Objective:** To investigate the perceived staff-related and student-related causes of school authority anxiety and identify perceived strategies for its reduction among undergraduates of the University of Nigeria, Enugu Campus (UNEC).

**Methods:** A descriptive cross-sectional survey was conducted among 373 undergraduates selected through stratified random sampling across five faculties using Cochran's formula. Data were collected using a researcher-developed questionnaire with good internal consistency (Cronbach's $\alpha = 0.87$). Of the questionnaires distributed, 347 were correctly completed and analysed (93.0% response rate). Data were analysed using descriptive statistics and independent-samples *t*-test at a 5% significance level.

**Results:** The leading staff-related causes of school authority anxiety were excessive academic workload before examinations (mean = 3.17) and harsh or unapproachable lecturers (mean = 3.17). The major student-related causes were fear of failure (mean = 3.23), excessive academic backlogs (mean = 3.14), poor academic performance (mean = 3.13), and missed deadlines (mean = 3.12). Key interventions identified included reasonable assignment deadlines, transparent grading criteria, open lecturer–student communication, effective time management, improved study strategies, and development of a growth mindset. Female students reported significantly higher perceptions of poor academic performance ($p = 0.039$), attendance concerns ($p = 0.016$), fear of failure ($p = 0.003$), and academic backlogs ($p = 0.003$) than male students.

**Conclusion:** School authority anxiety is shaped by both institutional and individual factors. Student-centred academic policies, supportive lecturer–student relationships, counselling, mentorship, and self-management skills are essential for reducing anxiety and enhancing students' academic success and psychological well-being.

**Keywords:** Perceived causes; School authority anxiety; Undergraduates; and Lecturers

# ENDO AND ECTO COLONIZATION OF COCKROACHES WITH PATHOGENIC BACTERIA: THE PUBLIC HEALTH IMPLICATION.

Onyemelukwe Ngozi Felicia, Omaka Emmanuel Onwe.
Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, University of Nigeria Enugu Campus.
**Corresponding Author:** Omaka Emmanuel Onwe.

Email: omakaemmanuelonwe@gmail.com 09136045043

## ABSTRACT

**Introduction:** Cockroaches (*Periplaneta americana*) are widespread domestic insect pest of public health and epidemiological importance. Their potentials are most often neglected due to their relative physical innocuousness unlike their counterparts like mosquitoes, bed bugs, fleas, lice and biting midges. Hence this study is aimed at documenting the bacteria isolated from the body surface and gut of cockroaches in Enugu environment.

**Materials and Methods:** One hundred and thirty (130) cockroaches captured through the Knock down technique from hostels, residential areas, markets and hospitals were analyzed for enterobacterial colonization. Seventy (70) cockroaches were obtained from hostels, thirty (30) cockroaches from residential areas and thirty (30) cockroaches from hospital. MacConkey broth, Eosin Methylene Blue agar and Nutrient agar were media used. Isolation was done using standard microbiological techniques.

**Results:** All the cockroaches sampled had at least one bacterium. A total number of 228 and 224 bacterial isolates were obtained for endo and ecto colonization respectively out of which 117 (51.32%) in hostels, 56 (24.56%) in residential areas & 55 (24.12%) in hospitals are for endocolonization and 113 (50.45%) in hostels, 57 (25.45%) in residential areas & 54 (24.11%) in hospitals are for ectocolonization. *Escherichia coli* 81 (35.52%) and 74 (33.04%), *Klebsiella pneumoniae* 50 (21. 92%) and 62 (27.68%), *Enterobacter clocae* 40 (17.54%) and 34 (15.18%) and *Pseudomonas aeriginosa* 27 (11.84%) and 18 (8.04%) were the predominant organisms. *Proteus vulgaris* 2 (0.9%) and 0 (0%), *Citrobacter freundii* 4 (1.8%) and 0 (0%) were the least isolated organisms. Although slight differences were observed between endo and ecto bacterial distributions, the p-value (>0.05) indicates that these differences were not statistically significant, suggesting similar bacterial carriage patterns on the internal and external surfaces of cockroaches.

**Conclusion:** This research shows that cockroaches are mechanical vectors and carriers of enteropathogens which can be transmitted to man. Efforts are hence needed to eradicate them as their presence in our environment poses a great threat to public health. Based on these findings, further works are hereby recommended to unravel other microbes including viral, fungal and parasitic organisms with a view to formulating better control measures for cockroach-acquired diseases.

**Keywords:** *Periplaneta americana,* endocolonization, ectocolonization, bacteria.

# NURSING STUDENTS' ATTITUDE TOWARD MENTALLY ILL PATIENTS BEFORE AND AFTER PSYCHIATRIC CLINICAL EXPERIENCE IN AKWA IBOM STATE, NIGERIA.

**Ogbonnaya Ngozi P!.,** [a]Iheanacho Peace N[1]., Nicholas Inimfon C[1]., Ogbonna Pleasure[1]., Madu Obiageli.T[1]

[1]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria Enugu Campus.

***[a]Corresponding author e-mail peace.iheacho@unn.edu.ng***

***Phone number 08086774004***

## ABSTRACT

**Background:** Mental health disorders are rising globally, yet stigmatization attitudes and misconceptions remain significant barriers to effective care, especially within healthcare systems. Understanding the nursing students' attitude and how they are influenced by exposure to clinical practice is essential in shaping targeted educational interventions. This study aimed to determine the attitudes of nursing students towards the mentally ill before and after their clinical experience.
**Method:** A descriptive cross-sectional design was conducted among 290 nursing students. Data were collected using a structured attitudinal questionnaire pre- and post psychiatric clinical experience. Data were analyzed using descriptive statistics and Pearson's Product Moment Correlation to assess relationships between sociodemographic factors and attitudes at $p < 0.05$.
**Results:** The findings showed significant improvements in attitude scale components such as benevolence ($p = 0.034$), pessimism ($p = 0.001$), and stigma ($p = 0.900$). Marital status also correlated significantly with separatism ($p = 0.009$). Attitudes relating to separatism, stereotyping, pessimistic prediction, and stigmatization showed minimal improvements.

**Conclusion:** The observed minimal improvement in the student after clinical exposure indicate that psychiatric clinical experience had a limited effect on shifting negative attitudes among the students. Therefore, educational interventions should focus on reducing stigma and improving attitude, particularly among younger and inexperienced students, to foster more compassionate attitudes in future healthcare providers.

**Keywords:** Mental health disorders, nursing students, clinical experience, attitude




Maduka University, a citadel of academic excellence and innovation, offers a diverse range of undergraduate and graduate programmes designed to equip students with the knowledge, skills, and values needed to excel in their chosen fields.

Established in 2020 with a mission to foster intellectual, moral and vocational development, the university is dedicated to nurturing future leaders who will make meaningful contributions to society.

Maduka University offers a wide range of undergraduate and pre-degree programs across various disciplines including Medicine, Law, Computing, Engineering, Pharmacy, Nursing and other fields.

**Here are some of our programmes.**

School of Computing

- Computer Science
- Cybersecurity
- Software Engineering

**School of Business and Social Sciences**

- Accounting:
- Economics:
- Mass Communication:
- International Relations:
- Transport Management:

**School of Engineering**

- Civil Engineering
- Mechanical Engineering
- Mechatronics Engineering
- Computer Engineering
- Electrical and Electronics Engineering

**School of Health Sciences**

- Medicine and Surgery:
- Public Health:
- Radiography:
- Nursing Science
- Medical Laboratory Science:
- Physiotherapy:

**School of Pharmacy**

- Pharmacy:

**School of Law**

- Law:

IJMBE

Our fees are affordable with no hidden charges.

1. Visit our application portal at https://admissions.madukauniversity.edu.ng

- Phone: 08055091802, 09157893107
- Email: admission@madukauniversity.edu.ng




# ESPERANCE
## Medical Diagnostics

**NOW OPEN**

**Full Automated Laboratory Investigations, Molecular Diagnostics and Research Ultrasonography and Digital Radiography**



Call customer care 08144012786

+23408039350580, +2348035405901 SMS WHATSAPP

Premier Layout, By New Artisan, Behind Infinite Luxury Hotel Enugu

www.esperancemedicaldiagnostics.com


signaturetv
...news in your pocket