KABARAK UNIVERSITY

Education in Biblical Perspective

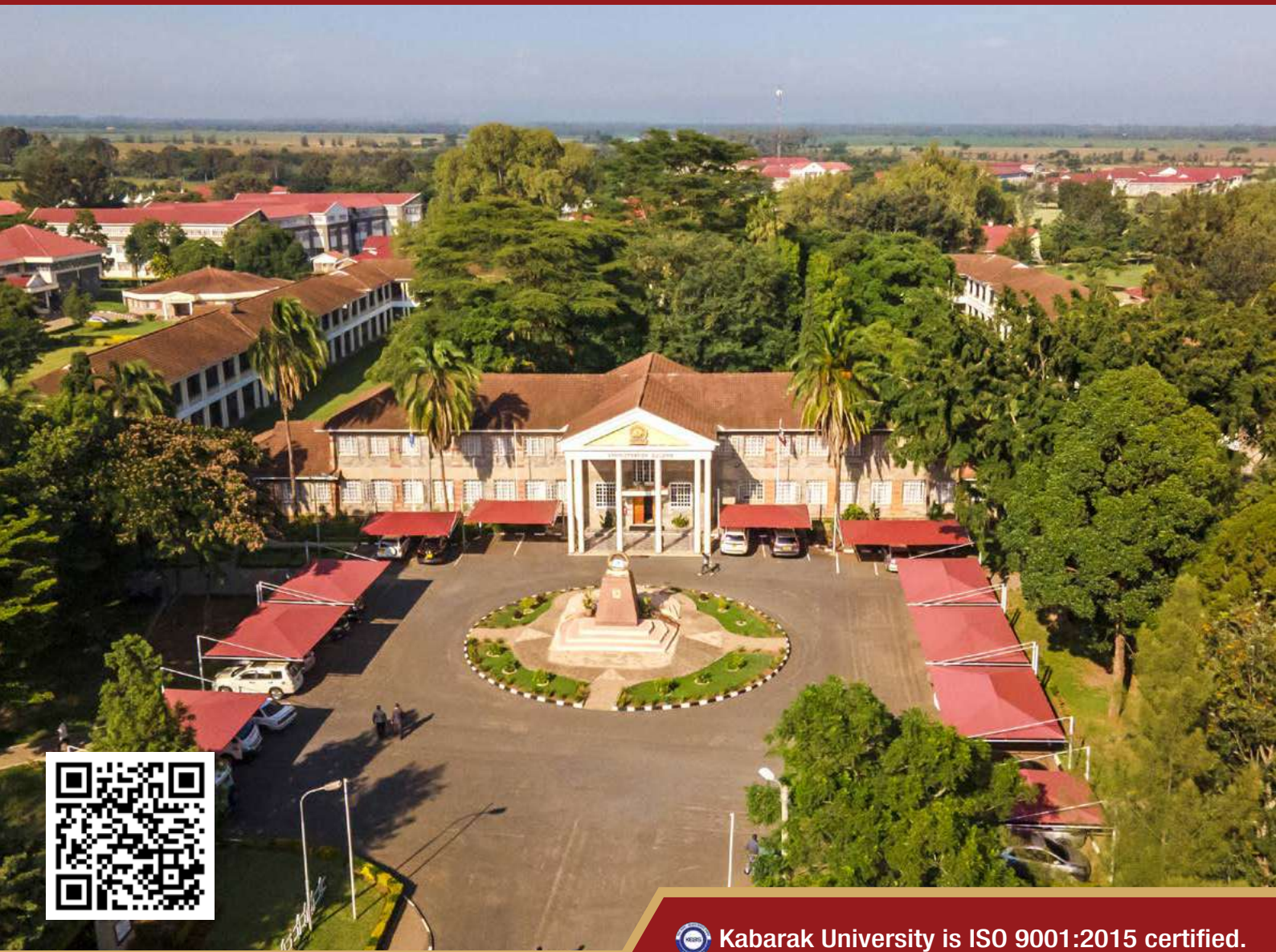
DIRECTORATE OF RESEARCH, INNOVATION AND OUTREACH

16TH INTERNATIONAL RESEARCH CONFERENCE

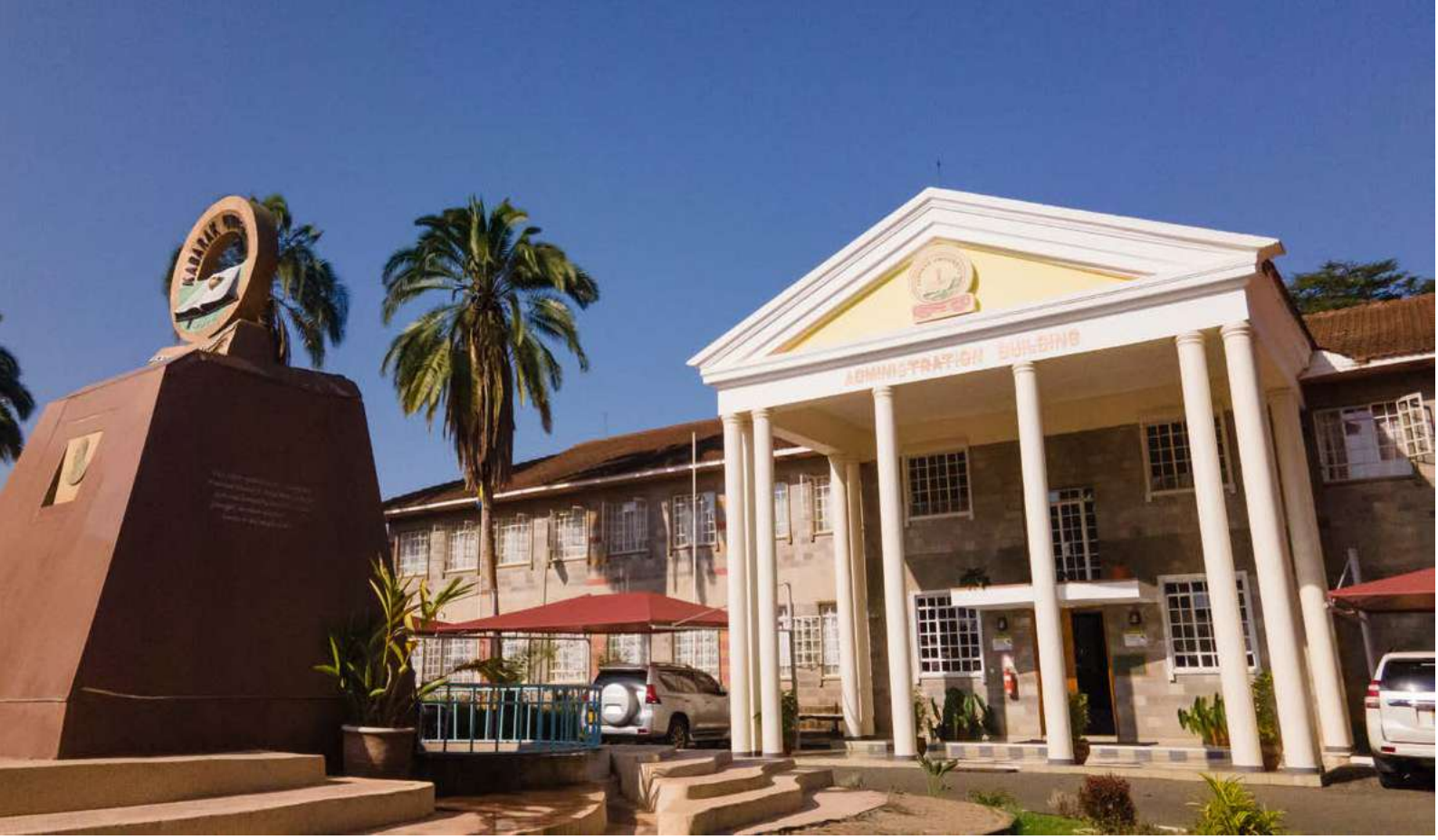
SCHOOL OF MEDICINE AND HEALTH SCIENCES

25TH - 26TH JUNE 2026

PROGRAM AND BOOK OF ABSTRACTS



Kabarak University is ISO 9001:2015 certified.



KABARAK UNIVERSITY

About Us

Kabarak University is a Chartered institution of higher learning that provides holistic Christian-based quality education, training, research and outreach activities for the service of God and humanity. The University was established in the year 2000 by the 2nd President of Kenya, H.E. Hon. Daniel T. Arap Moi, who was also the founding Chancellor. This was as a result of his visionary idea of setting up a Christian University that would meet the demand for higher education in Kenya and offer quality education based on strong moral principles.

Vision

To become a centre of Academic Excellence founded on Biblical Christian values.

Mission

To provide holistic quality education, research and community outreach based on Biblical Christian values.

Philosophy

To provide quality education in Biblical perspective that transforms lives.

Core Values

- Integrity
- Excellence and Professionalism
- Patriotism and Being Mindful of Others
- Innovativeness and Creativity

Education in Biblical Perspective

KABARAK UNIVERSITY

16TH INTERNATIONAL RESEARCH CONFERENCE

SCHOOL OF MEDICINE AND HEALTH SCIENCES

Conference Theme:

Building Resilient Health Systems Through Innovation, Equity, and Multisectoral Action to Advance Universal Health Coverage

Tagline: ***Stronger Systems, Healthier Communities, Shared Future***

PROGRAM
AND
BOOK OF ABSTRACTS

JUNE 2026

TABLE OF CONTENTS

Prof. Henry K. Kiplangat, PhD, MBS, OGW

VICE CHANCELLOR, KABARAK UNIVERSITY

It is a great pleasure to welcome you all to this conference and to see such a diverse gathering of people who share a common purpose: improving the health and well-being of our communities. I would like to begin by thanking each of you for taking the time to be here. Your presence reflects the importance of the conversations we are about to have and the collective responsibility we share in shaping the future of healthcare.

When we talk about resilient health systems, we are talking about systems that can withstand challenges, adapt to change, and continue serving people when they are needed most. Over the last few years, we have all witnessed how important resilience is. The COVID-19 pandemic tested health systems across the world in ways few could have imagined. It challenged our healthcare workers, strained resources, disrupted services, and exposed gaps that many of us did not know existed. Yet it also revealed something remarkable. It showed us the power of knowledge, innovation, collaboration, and leadership. It showed us what can be achieved when institutions, governments, healthcare professionals, researchers, and communities work together toward a common goal.

As universities, this experience gave us an opportunity to reflect on our role.

What is our contribution beyond teaching students and awarding degrees?

The answer is simple. Universities help shape the people, ideas, and innovations that strengthen health systems. Every doctor, nurse, pharmacist, public health specialist, nutritionist, physiotherapist, laboratory scientist, and healthcare manager begins their professional journey somewhere. More often than not, that journey starts in a university classroom, laboratory, or clinical training site. That reality places a significant responsibility on universities.

Our responsibility is not only to produce graduates with technical competence. We must also prepare professionals who can think critically, solve problems, embrace innovation, communicate effectively, and lead during times of uncertainty. Healthcare is changing rapidly. New diseases are emerging. Technology is transforming how care is delivered. Populations are growing and living longer. Expectations of healthcare systems continue to rise. As universities, we must ensure that our graduates are prepared for this changing world.

But education is only one part of our contribution. Universities are also centers of research and discovery. Many of the solutions that improve health outcomes originate from research conducted in academic institutions. Research helps us understand disease patterns, evaluate interventions, improve healthcare delivery, and develop evidence that informs policy. More importantly, universities help generate solutions that are relevant to local realities. The challenges facing our communities cannot always be solved using imported ideas alone. We need research that addresses our own context, our own populations, and our

own health priorities. This is why investment in research is not a luxury. It is a necessity.

Universities also have a responsibility to remain connected to the communities they serve. Knowledge should never remain confined within lecture halls or academic journals. It must find its way into homes, clinics, schools, and communities where it can make a meaningful difference in people's lives. Through outreach programs, community-based learning, health promotion activities, and partnerships with healthcare institutions, universities become active participants in improving health outcomes.

These engagements not only benefit communities but also enrich the learning experience of our students by exposing them to real-world challenges and practical solutions. Another area where universities have a critical role to play is leadership development. Strong health systems require strong leaders. They require individuals who can make informed decisions, manage resources responsibly, respond to crises effectively, and inspire confidence during difficult times.

The next generation of healthcare leaders is sitting in our classrooms today. Our task is to nurture them, challenge them, and equip them with the skills and values needed to lead healthcare systems into the future.

No institution can build resilient health systems alone.

Governments cannot do it alone.

Hospitals cannot do it alone.

Universities cannot do it alone.

Success depends on partnerships.

It depends on collaboration between academia, government, healthcare providers, regulatory bodies, industry, development partners, and communities themselves. Each of us has a role to play, and each contribution matters.

This conference provides an important opportunity to strengthen those partnerships. It gives us a platform to share experiences, learn from one another, identify challenges, and explore practical solutions.

As we engage in the discussions ahead, I encourage us to think beyond our individual institutions and professional disciplines.

Let us focus on the bigger picture.

Let us ask ourselves how we can better prepare health professionals, strengthen research, leverage technology, influence policy, and improve healthcare delivery for the benefit of all. The future of our health systems will not be determined by the challenges we face. It will be determined by how we respond to those challenges. Universities have a unique opportunity and responsibility to be part of that response.

At our institution, we remain committed to advancing health sciences education, supporting impactful research, fostering innovation, and building partnerships that contribute to stronger and more resilient health systems. We believe that universities must not only educate for today but also prepare society for tomorrow.

May this conference inspire new ideas, stronger collaborations, and practical actions that will contribute to healthier communities and stronger health systems.

Prof. Henry K. Kiplangat, PhD, MBS, OGW
Vice Chancellor, Kabarak University

Pamela Kimeto Ting'ei, Ph.D., MSN(Peds)., RN., MA (Bioethics)., FDS.

DEAN, SCHOOL OF MEDICINE AND HEALTH SCIENCES

It is my great pleasure to welcome you to the 16th Kabarak University International Health Conference 2026, organized by the School of Medicine and Health Sciences and the School Pharmacy under the theme, ***Building Resilient Health Systems Through Innovation, Equity, and Multisectoral Action to Advance Universal Health Coverage***

Today, health systems across the world are confronted by complex and interconnected challenges. This conference provides a timely platform for reflection, dialogue, and action. It brings together researchers, policymakers, healthcare professionals, development partners, innovators, students, and community stakeholders to explore practical pathways towards stronger, more equitable, and sustainable health systems.

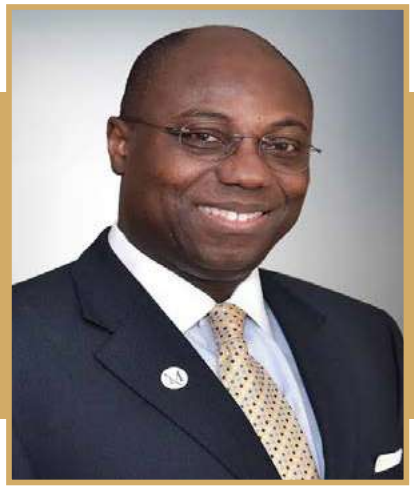
We are delighted by the diverse range of submissions received, reflecting the breadth and depth of contemporary health challenges and opportunities. Presentations across the conference tracks will showcase cutting-edge research, innovative technologies, policy solutions, best practices, and implementation experiences that contribute to health systems strengthening. We are particularly inspired by the active participation of students and professionals across sectors whose ideas and energy represent the future of healthcare leadership and innovation.

Through this forum, we hope to foster meaningful partnerships, stimulate knowledge exchange, and generate actionable recommendations that will inform policy and practice at county, national, regional, and global levels. I wish to express my sincere gratitude to the University Management, the Directorate of Research, our conference partners and sponsors, the organizing committees, reviewers, presenters, and all participants whose dedication and support have made this conference possible. To all delegates joining us physically and online, thank you for being part of this important conversation. Your participation demonstrates a shared commitment to building resilient health systems capable of meeting present and future challenges.

As we engage over the next two days, I encourage you to share your experiences, build new collaborations, and contribute to solutions that will advance health and well-being for our communities.

I warmly welcome you to the conference and wish you fruitful deliberations.

Pamela Kimeto Ting'ei, Ph.D., MSN(Peds)., RN., MA (Bioethics)., FDS.
Associate Professor-Maternal Child Health
Dean School of Medicine and Health Sciences



KEYNOTE SPEAKER

Professor Daniel A. Wubah

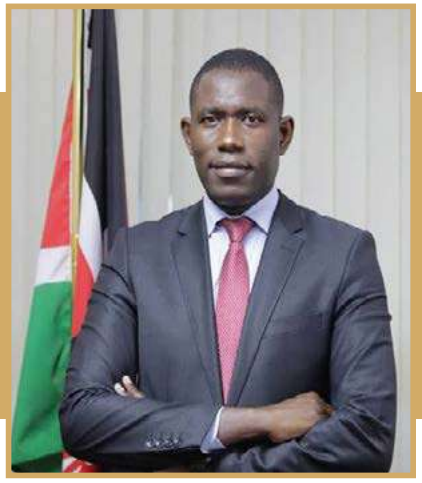
President, Millersville University

Professor Daniel A. Wubah is the 15th President of Millersville University, a position he has held since July 2018. A distinguished microbiologist, scholar, and higher education leader, he has more than three decades of experience in teaching, research, academic administration, and university leadership. Prior to joining Millersville University, he served as Provost and Senior Advisor to the President at Washington and Lee University, and held senior leadership positions at Virginia Tech, the University of Florida, James Madison University, and Towson University.

Professor Wubah is an elected Fellow of the American Association for the Advancement of Science (AAAS) and has secured significant research funding from organizations including the National Science Foundation (NSF), the National Institubbtes of Health (NIH), and the U.S. Department of Agriculture. Throughout his career, he has mentored numerous undergraduate and graduate researchers and has contributed extensively to advancing science education and international research collaboration.

Born in Ghana, Professor Wubah earned a Bachelor of Science (Honours) in Botany and a Diploma in Education from the University of Cape Coast, a Master of Science in Biology from the University of Akron, and a Ph.D. in Botany and Microbiology from the University of Georgia. Under his leadership, Millersville University has strengthened its commitment to student success, innovation, diversity, and community engagement, while advancing its strategic vision for excellence in higher education.

In addition to his academic and administrative accomplishments, Professor Wubah serves as a traditional leader in Ghana, holding the title Nana Ofosu Peko III (Toapentenhene) of Breman Asikuma in the Central Region.



GUEST SPEAKER

Dr. Fredrick Ouma Oluga, OGW

PS State Department of Medical Health Services,
Ministry of Health

Dr. Ouma Oluga is the Principal Secretary for Medical Services in Kenya's Ministry of Health, a seasoned physician, health systems leader, and policy expert with extensive experience in clinical medicine, healthcare management, and public service. He previously served as Secretary-General of the Kenya Medical Practitioners, Pharmacists and Dentists Union (KMPDU) and has held senior leadership positions within Kenya's health sector.

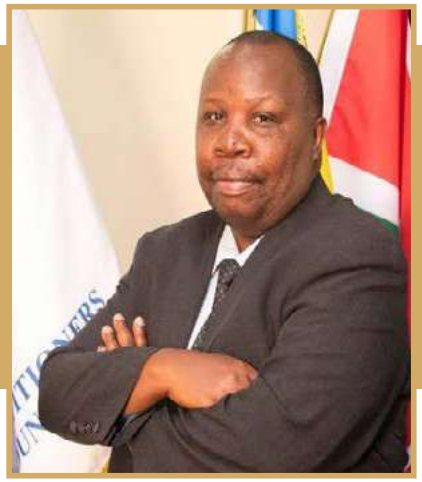
A board-certified executive physician and a Ministry of Labour licensed Designated Health Practitioner, Dr. Oluga holds a Master of Medicine (MMed) degree in Internal Medicine from the University of Nairobi, a Fellowship in Health Monitoring and Evaluation, and a Postgraduate Diploma in Infectious Diseases. His professional expertise spans clinical care, health policy, health systems strengthening, monitoring and evaluation, and infectious disease management.

As Principal Secretary for Medical Services, Dr. Oluga provides strategic leadership in advancing Kenya's Universal Health Coverage agenda, strengthening healthcare delivery systems, and promoting quality, accessible, and equitable healthcare services for all Kenyans. His career reflects a strong commitment to health sector reform, workforce development, and evidence-based policymaking.

GUEST SPEAKER

Dr David Gicheru Kariuki

CEO Kenya Medical Practitioners and Dentists Council (KMPDC)



Dr. David Gicheru Kariuki is the Chief Executive Officer and Registrar of the Kenya Medical Practitioners and Dentists Council, the statutory body responsible for regulating the training, licensing, and practice of medicine and dentistry, as well as the regulation of health facilities in Kenya. He is a seasoned healthcare leader with over 28 years of experience in clinical medicine, health policy, health systems management, and healthcare administration.

An Obstetrician and Gynaecologist by training, Dr. Kariuki holds a Bachelor of Medicine and Bachelor of Surgery (MBChB) and a Master of Medicine (MMed) in Obstetrics and Gynaecology from the University of Nairobi. He also holds an MBA in Healthcare Management from Strathmore University and a Diploma in Health Systems Management. He is a Fellow of the East, Central and Southern Africa College of Obstetrics and Gynaecology and a member of several professional medical associations.

Prior to his appointment as CEO of KMPDC in 2022, Dr. Kariuki served in senior leadership positions at Kenya's Ministry of Health, including Senior Deputy Director of Medical Services and Head of Health Policy and Research Development. He played a pivotal role in the development of Kenya's first roadmap toward Universal Health Coverage (UHC) under the Government's Big Four Agenda and led key national health policy and financing initiatives.

As CEO and Registrar of KMPDC, Dr. Kariuki provides strategic leadership in strengthening professional regulation, promoting quality and ethical healthcare, advancing patient safety, and supporting health systems transformation in Kenya. Under his leadership, the Council has continued to enhance regulatory standards and innovation in healthcare governance.

KABARAK UNIVERSITY

THE 16TH INTERNATIONAL RESEARCH CONFERENCE FOR THE SCHOOL OF MEDICINE AND HEALTH SCIENCES

CONFERENCE THEME: *Building Resilient Health Systems Through Innovation, Equity, and Multisectoral Action to Advance Universal Health Coverage*

PROGRAM

TIME	SESSION / ACTIVITY	FOCAL PERSONS
DAY 1 | Thursday, 25thJune 2026 | 1. School of Medicine & Health Sciences (Sawia Auditorium), 2. School of Pharmacy (Katiba Auditorium)		
8:00 – 8:30 AM	**Guest Arrival & Registration**	School Officials
8:30 – 8:40 AM	Devotional Thought & Opening Prayer	Rev. Justus Mutuku, *Ag. University Provost*
08:40 – 9:00 AM	Dr. Tom Achoki - Africa Institute for Health Policy (AHIP) ***Abstract 1**: Improving Efficiency of Kenya's Health System*	Dr. Arthur g'etich *(Session Moderator)*
09:00 – 09:20 AM	Brian Demesi - Ministry of Health Division of Child Health ***Abstract 2:** Development and Dissemination of an Integrated Newborn Care Training Package*	Dr. Arthur g'etich *(Session Moderator)*
09:20 – 09:40 AM	Q & A	
	09:40 – 10:00 AM – *Tea Break & Networking*	
09:00 – 9:45 AM	**Guests Courtesy Call to Vice Chancellor**	
10:00 – 10:10 AM	Kenya National Anthem, East African Community Anthem, Kabarak University Anthem	School of Music & Media
10:10 – 10:20 AM	Devotional Thought and opening prayer	Rev. Justus Mutuku, Ag. University Provost
10:20 – 10:25 AM	Remarks, Dean of SMHS	Prof. Pamela Kimeto
10:25 – 10:30 AM	Remarks, DVC (A&R)	Prof. John N. Ochola
10:30 – 11:00 AM	**Remarks and official opening, Vice Chancellor**	**Prof. Henry K. Kiplangat, PhD, MBS, OGW**

TIME	SESSION / ACTIVITY	FOCAL PERSONS
11:00 – 11:30 AM	**Guest Speaker**	**Dr. Ouma Oluga, Principal Secretary, State Department of Medical Services**
11:30 – 12:00 PM	**Guest Speaker**	**Dr. Beatrice M. Inyangala, Principal Secretary, State Department for Higher Education and Research**
12:00 – 1:00PM	Keynote Speaker	Prof. Daniel A. Wubah, President, Millersville University
1:00 – 1:30 PM	**Panel Discussions / Q&A** 1. Prof. Henry Kiplangat, Vice Chancellor, Kabarak University 2. Prof. Eng. Ayub N. Gitau – Vice Chancellor University of Nairobi 3. Prof. Kiplagat Kotut – Ag. Vice Chancellor, Moi University 4. Prof. Peninah Aloo-Obudho Vice Chancellor – Masaai Mara University 5. Prof. Peter K. Muriungi, Vice Chancellor Tharaka University 6. Prof. Dickson Andala – CEO, National Research Fund 7. Prof. Peter Melby – Director Center for Tropical Diseases – University of Texas-Medical Branch (UTMB), Texas	Dr. Michael Walekhwa, Ms. Mercy Singoei *(Session Moderators)*
1:30 – 1:40 PM	**Appreciation**	**Prof. Henry K. Kiplangat, PhD, MBS, OGW**
1:40 – 1:50 PM	Photo Session	University Photographer
	1:50 – 2:20 PM — Lunch	
2:20 – 4:30 PM	Breakout Sessions 1 – 3	
4: 30-4:50 PM	**Poster viewing session**	
4:50 –5:00 PM	**Health Break & Networking and Departure**	

TIME	SESSION / ACTIVITY	FOCAL PERSONS
DAY 2 | Friday, 26th June 2026 | 1. School of Medicine & Health Sciences (Sawia Auditorium), 2. School of Pharmacy (Katiba Auditorium)		
8:30 – 8:30 AM	Arrival & Registration	School Officials
8:30 – 8:40 AM	Devotional Thought & Opening Prayers	Rev. Justus Mutuku, Ag. University Provost
8:40 – 9:40 AM	Breakout Sessions 1 – 3	
	9:40 – 10:00 AM — Health Break	
9:00 – 9:45 AM	Guests Courtesy Call to Vice Chancellor	
10:00 – 11:30 AM	**Panel Discussion / QA** **Speaker: Dr. David Kariuki, *CEO Kenya Medical Practitioners & Dentists Council (KMPDC):*** *Shaping a Resilient Healthcare Workforce: The Strategic Role of Regulatory Bodies in Education, Practice, and Workforce Sustainability* **Panelists**: 1. Dr. Lister Onsongo, CEO/Registrar, Nursing Council of Kenya (NCK) 2. Mr. Patrick Kisabei, Registrar, Kenya Medical Laboratory and Technicians Board (KMLTTB) 3. Mr. IbrahimWaqo, Ag. CEO/Registrar. Clinical Officers Council (COC) 4. Mr. Anthony Wainaina, Ag. CEO/Registrar, Public Health Officers and Technicians Councill (PHOTC) 5. Dr. David Okeyo, CEO, Kenya Nutritionists and Dieticians Institute (KNDI) 6. Dr. Ahmed Mohamed, Ag. CEO Pharmacy and Poisons Board (PPB)	Dr. Moses Mogesi
11:30 – 11:40AM	**Closing Ceremony** • Welcoming Remarks – Dean School of Pharmacy	Dr. Titus Suge
11:40 – 11:50 AM	• Conference recap and highlights – Dean School of Medicine and Health Sciences	Prof. Pamela Kimeto
11:50 – 12: 05 PM	• **Appreciation**	**Prof. Henry Kiplangat, PhD, MBS, OGW**
12:05 – 12:10 PM	• Closing Prayer	Rev. Justus Mutuku, Ag University Provost

DAY 3 WEDNESDAY 24TH JUNE 2026

PUBLIC LECTURE/PRE CONFERENCE

DAY 3 | Wednesday, 24thJune 2026 | PUBLIC LECTURE(MAIN AUDITORIUM)		
8:00 – 8:30 AM	**Guest Arrival & Registration**	School Officials
8:30 – 09:00 AM	**Courtesy Call to the Vice-Chancellor and Signing of the MoU**	
09:00 – 9:05 AM	Kenya National Anthem, East Africa Community Anthem, Kabarak University Anthem	School of Music and Media
09:05 – 09:15 AM	Devotional Thought and Opening Prayer	Rev. Justus Mutuku, Ag. University Provost
09:15 – 9:20 AM	Opening Remarks, DVC (A&R)	Prof. John N. Ochola
09:20 – 09:30 AM	Welcome remarks	Prof. Henry K. Kiplangat, PhD, MBS, OGW
09:30 – 10:30 AM	PUBLIC LECTURE on the topic: Educating for Impact: How Universities Can Shape Africa's Future through Innovation, Leadership and Service.	Prof. Daniel A. Wubah, President, Millersville University
10:30 – 11:00 AM	QA	Dr. Michael Walekhwa, Moderator
11:00 AM-1:00 PM	Chapel	University Provost
1:00-2:00 PM	Lunch	Catering services
2:00-5:00 PM	Break out meeting with various departments in SMHS and SOP	Deans: SMHS and SOP

ORAL PRESENTATIONS

Breakout Sessions Schedule

Day 1: Thursday, 25 June 2026 (Breakout 1: Health Technology, Innovation, and Pharmaceutical Sciences)

Moderators: *Dr. Thrizza Kiplagat (School of Pharmacy) and Dr. Benard Kioko (School of Pharmacy)*

Session Rapporteur: *SMHS & SOP (TBC)*

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
14:20-14:25	**Opening**	**Session orientation**		**Confirm speaker order, timing rules and Q&A management**	
14:25-14:35	Oral presentation 1	Digital health, AI and triage innovations	004	Towards a Standardized Emergency Triage in Resource-Limited Settings: Evidence from Nakuru County Referral and Teaching Hospital - ***Valerie Suge***	
14:35-14:45	Oral presentation 2		027	Use of Artificial Intelligence and Machine Learning in Optimization of Formulation of Drug Delivery Systems - ***Yvonne Sunguti***	Dr. Thrizza Kiplagat
14:45-14:55	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
14:55-15:00	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	
15:00-15:10	Oral presentation 3	Clinical decision support and diagnostics	028	Assessing Cardiovascular Risk Using the Framingham Risk Score Among People Living with HIV on HAART at Machakos County Referral Hospital, Kenya - ***Sarah Malinda Syengo***	
15:10-15:20	Oral presentation 4		029	Utility of Routine Red Cell Indices (MCV And RDW) In Screening and Differentiating Haemoglobinopathies in Western Kenya - ***Bernard Mutua***	
15:20-15:30	Oral presentation 5		030	Safety And Effectiveness of Topical Anaesthesia for Phacoemulsification Cataract Surgery: A Systematic Review - ***Cyprian Mabonga***	Dr. Benard Kioko
15:30-15:40	Oral presentation 6		022	Microbiology Diagnostics Capacity Assessment: A Collaborative Survey of Select Public and Faith Based Hospitals in Kenya - ***Josephat Tonui***	
15:40-15:50	Oral presentation 7		068	3D Printing in Pharmaceutical Manufacturing: A Narrative Review of Opportunities and Challenges for Personalized and Patient-Centered Dosage Forms - ***Allan Wanjama***	
15:50-16:00	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
16:00-16:05	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	
16:05-16:15	Oral presentation 8	Pharmacological, herbal and therapeutic innovations	003	Assessment of In-Vitro Dissolution Profiles of Marketed Albendazole Tablets in Nakuru County, Kenya - ***Sarah Vugigi***	
16:15-16:25	Oral presentation 9		033	Hypoglycemic and Hypolipidemic Effects of Tithonia Diversifolia Aqueous Root Extract in Western Diet-Fed Wistar Albino Rats - ***Damaris Okuna***	Dr. Thrizza Kiplagat
16:25-16:35	Oral presentation 10		031	Ameliorative Effects of Phenobarbital on Early Life Stress Induced Hyperactivity of The Hypothalamus - Pituitary - Adrenal Axis in Wistar Rats - ***Bett Shadrack***	
16:35-16:45	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
16:45-16:50	**Closing**	**End of session**		**Announcements and close**	**All moderators**

Day 1: Thursday, 25 June 2026 (Breakout 2: Advancing Nursing Education, Practice Policy and Leadership)

Moderators: *Dr. Sam Mulongo, (School of Medicine and Health Sciences), Dr. Phillip Towett (School of Medicine and Health Sciences), and Ms. Valerie Suge (School of Medicine and Health Sciences)*

Session Rapporteur: *SMHS & SOP (TBC)*

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
14:20-14:25	**Opening**	**Session orientation**		**Confirm speaker order, timing rules and Q&A management**	
14:25-14:35	Oral presentation 1	Advancing nursing education, training and competency development	067	Uniting the Voice of Nursing through Advocacy - ***Kelly Kuhns***	
14:35-14:45	Oral presentation 2		069	Undergraduate Nursing Research Education and Preparedness for Evidence Based Practice: A Cross-Sectional Study in Kenyan National Referral Hospitals - ***Domnick Abungu***	Dr. Sam Mulongo
14:45-14:55	Oral presentation 3		008	Assessment of the Capacity of Selected Clinical Placement Sites in Supporting the Development of Nursing Students' Clinical Skills and Competence in Bomet and Kericho Counties, Kenya - ***Towett Phillip***	
14:55-15:05	**Q&A / feedback**			**Q&A, feedback for the preceding presentations, and speaker transition**	
15:05-15:15	Oral presentation 4	Nursing practice policy, regulation and practice roles	034	Developing Advanced Practice Nursing in Kenya: A Proposed Model for Board- Certified Nurse Practitioner Programs - ***Michelle Chronister***	
15:15-15:25	Oral presentation 5		010	The Legislative and Regulatory Landscape of Nurse Practitioner Practice in the United States - ***Michelle Chronister***	Valerie Suge
15:25-15:35	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
15:35-15:40	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	
15:40-15:50	Oral presentation 6	Nursing leadership and family-centred care	013	Mobilizing the Power of Nursing through Nurse Practitioner - ***Augustine C. Chebarwett***	
15:50-16:00	Oral presentation 7		035	Strengthening Families: How Nurse-Family Partnership Improves Maternal and Child Outcomes - ***Susan Brackbill***	Dr. Phillip Towett
16:00-16:10	Oral presentation 8		036	Experiences of Families of Patients Admitted to the Intensive Care Unit at AIC Kijabe Hospital-Kenya - ***Bethel Owuor Otieno***	
16:10-16:20	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
16:20-16:25	**Closing**	**End of session**		**Announcements and close**	**All moderators**

Day 1: Thursday, 25 June 2026 (Breakout 3: Health Systems Resilience, Biosafety, AMR and TB Control)

Moderators: *Dr. Miriam Muga (School of Medicine and Health Sciences), Dr. Jim Khamisi (School of Pharmacy), and Dr. Jonathan Nthusi (School of Medicine and Health Sciences)*

Session Rapporteur: *SMHS & SOP (TBC)*

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
14:20-14:25	**Opening**	**Session orientation**		**Confirm speaker order, timing rules and Q&A management**	Dr. Miriam Muga
14:25-14:35	Oral presentation 1	Enhancing health system resilience	039	The Climate Change-Health Interface: Innovations, Adaptations and Equity for Resilient Climate-Ready Health Systems - ***Jeremiah Mbindyo***	
14:35-14:45	Oral presentation 2		005	Mapping and Modelling Cost Effective Gender Transformative SRHR Interventions for Resilient Primary Health Care Systems in Kenya - ***Arthur Ng'etich***	
14:45-14:55	Oral presentation 3		020	Leveraging Paediatric HIV Adherence Data to Strengthen Resilient Health Systems and Inform Competency-Based Health Professions Education in Kenya - ***Norah Talam***	
14:55-15:05	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
15:05-15:10	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	
15:10-15:20	Oral presentation 4	Biosafety, AMR and precision diagnostics	042	Assessment of Competency and Biosafety in Mortuary Science Practice among Practicing Morticians in Western Kenya - ***Patrick Wangira***	Dr. Jim Khamisi
15:20-15:30	Oral presentation 5		043	Prevalence and Antimicrobial Resistance of Bacterial Contaminants in High-Touch Hospital Environments: A Pilot Study in a Kenyan Referral Hospital - ***Briton Kavulavu***	
15:30-15:40	Oral presentation 6		001	Strengthening the One Health Approach through Multisectoral Collaboration: Experience from the Nakuru County-Kabarak University Joint AMR Awareness Symposium - ***Pamela Kimeto***	
15:40-15:50	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
15:50-15:55	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
15:55-16:05	Oral presentation 7	TB control, transmission modelling and referral systems	045	Modeling Tuberculosis Transmission in Northern Uganda: A Dynamic Approach to Understanding Outbreak Drivers and Optimizing Control Strategies - ***Obua Daniel***	Dr. Jonathan Nthusi
16:05-16:15	Oral presentation 8		046	Improving Tuberculosis Referral in Retail Pharmacies: Determinants and Strategies for Health System Strengthening in Nakuru County, Kenya - ***Amos Kandagor***	
16:15-16:25	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
16:25-16:35	**Closing**	**End of session**		**Announcements and close**	**All moderators**

Day 2: Friday, 26 June 2026 (Breakout 1: Nutrition, Health Technology, Pediatric Care and Lifestyle Interventions)

***Moderators**: Dr. Phyllis Waruguru (School of Medicine and Health Sciences), Dr. Wesley Bor (School of Medicine and Health Sciences), and Dr. Shadrack Bett (School of Medicine and Health Sciences)*

***Session Rapporteur:** SMHS & SOP (TBC)*

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
08:40-08:45	**Opening**	**Session orientation**		**Confirm speaker order, timing rules and Q&A management**	
08:45-08:55	Oral presentation 1	Nutrition education, diet-based interventions and lifestyle risk	049	A Comparative Study on The Effectiveness of Nutrition Education Among Caregivers on Dietary Diversification on Children in Urban Vs. Rural Central Kajiado, Kenya - ***Mary Oyungu***	Dr. Phyllis Waruguru
08:55-09:05	Oral presentation 2		021	Do School Feeding Programs Improve Nutritional Status of Schoolchildren in Sub-Saharan Africa? A Systematic Review - ***Wendy Muthoni Kimonye***	
09:05-09:15	Oral presentation 3		050	Optimizing HIV Treatment Outcomes Using Local Diet- And Food-Based Interventions - ***Wesley Bor***	
09:15-09:25	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
09:25-09:30	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
09:30-09:40	Oral presentation 4	Nutrition education, diet-based interventions and lifestyle risk	012	Dietary Practices and Determinants of Nutrition Status Among Adolescents Living with HIV at Longisa County Referral Hospital, Kenya - ***Fancy Chepkoech***	Dr. Wesley Bor
09:40-09:50	Oral presentation 5		018	Online Food Delivery Application Utilization and Nutritional Status Among Young and Middle-Aged Adults (16-45 Years): A Systematic Review of Observational Studies - ***Nancy Anyango Opiyo***	
09:50-10:00	Oral presentation 6		025	Physical Activity Levels and Nutritional Status Among University Students in Kenya: Evidence from Kabarak University - ***Faith Cherotich***	
10:00-10:10	Oral presentation 7		052	Restorative Effects of Vitamin D on Insulin, Luteinizing, Testosterone and Anti-Mullerian Hormone Levels as Markers of Insulin Resistance in Polycystic Ovary Syndrome Patients Attending Moi Teaching and Referral Hospital in Western Part of Kenya - ***Cyprian Mabonga***	
10:10-10:20	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
10:20-10:25	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	
10:25-10:35	Oral presentation 8	Pediatric care, sports health and lifestyle technologies	053	Effectiveness of Non-Pharmacological Pain Management Techniques Among Children Aged 3 To 5 Years at Narok County Referral Hospital - ***Monica Itong'e***	Dr. Shadrack Bett
10:35-10:45	Oral presentation 9		054	Recognition and Management of Sport-Related Concussion for Return-To-Play - ***Jeffrey W. Wimer***	
10:45-10:55	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
10:55-11:00	**Closing**	**End of session**		**Announcements and close**	**All moderators**

Day 2: Friday, 26 June 2026 (Breakout 2: Emergency Response, Maternal-Newborn Health and Workforce Resilience)

Moderators: *Dr Jonathan Nthusi (School of Medicine and Health Sciences) and Dr. Norah Talam (School of Medicine and Health Sciences)*

Session Rapporteur: *SMHS & SOP (TBC)*

Time	Segment	Sub-thematic Focus	Abs. No.	Abstract Title / Activity	Lead Moderator
08:40-08:45	**Opening**	**Session orientation**		**Confirm speaker order, timing rules and Q&A management**	Dr. Norah Talam
08:45-08:55	Oral presentation 1	Emergency toxicological response and maternal child health	048	Sustainable, Lower-Cost Treatment Protocol for Organo-Phosphate Poisoning in Rural Kenya - ***Jonathan Nthusi***	
08:55-09:05	Oral presentation 2		019	Implications of Feeding Options and Caregiving Practices Among Adolescent Mothers on Nutritional Status of Infants Aged 0-6 Months: A Systematic Review - ***Edith Nyaboke***	
09:05-09:15	Oral presentation 3		015	Effectiveness of Clinician Appraisal as the Primary Diagnostic Method for Autism Spectrum Disorder in Resource-Limited Settings: A Systematic Review - ***Onesmus Chirchir***	
09:15-09:25	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
09:25-09:30	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	
09:30-09:40	Oral presentation 4	Professional well-being, facility preparedness and newborn care	006	The Hidden Cost of Service: Recognizing and Addressing Burnout for a Healthier and Resilient Professional - ***Margaret Mbindyo***	Dr. Jonathan Nthusi
09:40-09:50	Oral presentation 5		062	Preparedness of Level II-V Healthcare Facilities for Cervical Cancer Screening in Tharaka Nithi County, Kenya - ***Desanges Kasoki Devughe***	
09:50-10:00	Oral presentation 6		063	Sixty Seconds to Survival: The Power of the Golden Minute in Newborn Care - ***Susan Brackbill***	
10:00-10:10	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
10:10-10:20	**Closing**	**End of session**		**Announcements and close**	**All moderators**

Day 2: Friday, 26 June 2026 (Breakout 3: Preventive Health, Prediction Tools and Occupational Determinants)

Moderators: *Dr. Doris Kibiwott (School of Medicine and Health Sciences) and Mr. Samuel Kingi (School of Medicine and Health Sciences)*

Session Rapporteur: *SMHS & SOP (TBC)*

Time	Segment	Sub-thematic focus	Abs. No.	Abstract title / activity	Lead moderator
08:40-08:45	**Opening**	**Session orientation**		**Confirm speaker order, timing rules and Q&A management**	Dr. Doris Kibiwott
08:45-08:55	Oral presentation 1	Vaccination, screening and prediction tools	061	HPV Vaccine Hesitancy Among Mothers of Eligible Daughters in Nyaribari Masaba, Kisii County, Kenya - ***Joshua Boraya***	
08:55-09:05	Oral presentation 2		024	A Logistic Regression Model and Clinical Tool for Prediction of Human Papilloma Virus Vaccine Uptake - ***Nahashon Akunga***	
09:05-09:15	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
09:15-09:20	**Transition**	**Session break**		**Speaker transition and rapporteur note consolidation**	**All moderators**
09:20-09:30	Oral presentation 3	Community determinants and occupational health	064	Influence of Cultural Practices on Disease Burden Among Five Selected Communities in Kenya - ***Michael Walekhwa***	Samuel Kingi
09:30-09:40	Oral presentation 4		066	Predictors of Work Productivity Impairment and Occupational Disability in Chronic Low Back Pain: A Cross-Sectional Analysis in Western Kenya - ***Stella Papa***	
09:40-09:50	**Q&A / feedback**			**Q&A and feedback for the preceding presentations**	
09:50-10:00	**Closing**	**End of session**		**Announcements and close**	**All moderators**

POSTER PRESENTATIONS

Poster Board	Abs. No.	Poster Title
P01	007	Association between Faith-Based Teachings and Teenage Pregnancy among Adolescent Girls in Laikipia West Sub-County, Kenya - ***Robert Wafula***
P02	009	Factors Affecting Complementary Feeding Practices of Children 6-23 Months in Developing Countries: A Review - ***Mohamed Siraji Hassan***
P03	011	Determinants of Provision of Post-Abortion Care Services in Health Care Facilities in Kisumu Central Sub-County - ***Tabitha Ochiel***
P04	014	Psychocognitive Outcomes at First Presentation Following Contact Child Sexual Abuse among Adolescents at Nakuru County Referral and Teaching Hospital - ***Mumo Irene***
P05	016	Factors Contributing to Inadequate Exclusive Breastfeeding among Children 0-6 Months in Developing Countries - ***Mohamedkhalid Hared***
P06	017	Nutrition Knowledge, Dietary Practices and Nutrition Status among Pregnant Women: A Systematic Review - *Olympia Jeruto*
P07	026	Determinants of Electronic Medical Record Implementation for Diabetes Management in Kenya: A Cross-Sectional Study of Infrastructure, Data Security, and Organization Readiness - ***Kingi Samuel***
P08	032	Herbal Manufacturing: Lessons from Traditional Chinese Medicine and Opportunities for Adoption in Kenya - ***Ian Ontiri***
P09	037	Building a Barrier-Free System: Digitalization of the Medical System Eliminates Paperwork, Misdiagnosis, and Language Gaps - ***Vivian Nyamari***
P10	038	Enhancing Access to Mental Health Support through an Anonymous Digital Counseling Platform: A Kenyan Perspective - ***Jakes Keraso Mogambi***
P11	040	Climate Variability, Agrochemical Use, and Food Safety - ***Moses Wangwa***
P12	041	Traditional Kalenjin Fermented Cereal Foods as Reservoirs of Antimicrobial-Producing Lactic Acid Bacteria - ***Charity Akweya***
P13	044	Phage Display Identification of Peptides Targeting Staphylococcus Aureus Type 5 Capsular Polysaccharide for Precision Diagnostic and Antimicrobial Applications - ***Martin Maratani***
P14	047	Perception and Experiences Influencing Uptake of Tuberculosis Preventive Therapy among Healthcare Workers in Nakuru County - ***Lynn Mumo***
P15	051	A Review of the Determinants of Excess Weight among Women of Reproductive Age in Low- and Middle-Income Countries - ***Pamela Nanyama Nyongesa***
P17	056	Internalized Stigma and Associated Factors among Patients with Mental Illness Attending Follow-Up Psychiatric Clinics at Tenwek and Longisa Hospitals - ***Atnafu Alemayehu Asha***
P18	057	Patient Perspectives: Transition of Care from Hospital to Home-Based End-of-Life Care at a Faith-Based Hospital in Rural Kenya - ***Grace Wanjiku Macharia***
P19	058	Infant Feeding and Caregiving Practices among Adolescent Mothers' Implications on Nutritional Status of Infants Aged 0-6 Months - ***Edith Okeiga***
P20	059	Nutrition Knowledge, Dietary Practices and Nutrition Status among Pregnant Women Attending Kapsabet County Referral Hospital, Kenya - ***Cheruto Olympia***
P21	060	Morphology of the placenta in women infected with malaria during pregnancy - ***Mercy Singoei***
P22	065	Zoonotic Diseases Awareness and Prevention Practices among Cats and Dog Owners in Urban Communities - ***Valentine Mwangi***
P23	070	Effects of Donors' Education Level, ABO/Rhesus Blood Groups and Donation Time on Adverse Reactions at Kisumu Regional Blood Transfusion Centre, Kenya - ***Irene Okwaro***
P24	071	Mental Health and Associated Factors Among Adolescents and Young Adults Living with HIV Attending Kericho County Referral Hospital Comprehensive Care Centre - ***Rither Langat***

BOOK OF ABSTRACTS

1. STRENGTHENING THE ONE HEALTH APPROACH THROUGH MULTISECTORAL COLLABORATION: EXPERIENCE FROM THE NAKURU COUNTY-KABARAK UNIVERSITY JOINT AMR AWARENESS SYMPOSIUM

Pamela Kimeto[1]*, Josephat Tonui[1], Arthur Ngetich[1], Moses Mogesi[1], Helmut Khol[1] Titus Suge[2] Jackson Ndegwa[3], Lydia Momanyi[3]

[1] School of Medicine and Health Sciences, Kabarak University, [2] School of Pharmacy, Kabarak University, [3] Nakuru County Antimicrobial Stewardship Interagency Committee

Email: p_kimeto@kabarak.ac.ke

Abstract

The One Health approach recognizes the interconnectedness of human, animal, and environmental health and promotes collaborative action to address complex health system challenges. Antimicrobial resistance (AMR) is a growing global threat, directly responsible for an estimated 1.27 million deaths and associated with nearly 4.95 million deaths worldwide in 2019. The emergence and spread of AMR are driven by factors spanning human healthcare, veterinary practice, agriculture, and environmental contamination, necessitating coordinated multisectoral interventions. To strengthen AMR awareness and foster cross-sectoral engagement, Nakuru County and Kabarak University jointly organized an AMR Symposium as part of commemoration of the World Antimicrobial Resistance Awareness Week (WAAW) in 2025.

The objective of the study is to promote AMR awareness and strengthen the implementation of the One Health approach by bringing together stakeholders from all relevant sectors in Nakuru County to share experiences, enhance collaboration, and identify priority actions for combating AMR.

The symposium was jointly planned through a series of consultative meetings involving Kabarak University and the Nakuru County Antimicrobial Stewardship Interagency Committee (CASIC). The forum brought together policy makers, health workers, administrators, environmentalists, engineers, students, lecturers, farmers, agricultural officers and veterinarians in one forum to hold conversations on the AMR pandemic. This was to advance solutions and collaborations in a One health approach, for the containment of AMR in Nakuru County. The program featured expert presentations, multidisciplinary panel discussions, and hospital experience-sharing sessions highlighting antimicrobial stewardship, infection prevention and control, and AMR surveillance initiatives.

The symposium successfully convened stakeholders across the One Health spectrum, enhancing awareness of AMR and its multisectoral drivers. Experience-sharing sessions and panel discussions identified key challenges, including limited surveillance capacity, inadequate public awareness, regulation gaps, and fragmented coordination. Participants emphasized the need for integrated surveillance systems, strengthened stewardship programs, improved infection prevention measures, and sustained stakeholder engagement.

The symposium demonstrated the value of multisectoral collaboration in advancing AMR awareness and strengthening the One Health response. Continued partnerships, coordinated action, and investment in surveillance, stewardship, and public engagement are essential to mitigate AMR and safeguard the effectiveness of antimicrobial agents for future generations.

Keywords: *Antimicrobial Resistance, One Health, Awareness, Multisectoral Collaboration, Antimicrobial Stewardship, Nakuru County, World Antimicrobial Resistance Awareness Week.*

2. DEVELOPMENT AND DISSEMINATION OF AN INTEGRATED COMPREHENSIVE AND ESSENTIAL NEWBORN CARE TRAINING PACKAGE TO STRENGTHEN MANAGEMENT OF SMALL AND SICK NEWBORNS IN KENYA

Brian Demisi

Ministry of Health Division of Child Health

Email: briandemesi@gmail.com

Abstract

Neonatal mortality remains a major public health challenge in Kenya, accounting for 66% of infant deaths and 51% of under-five mortality. Despite improvements in child survival, neonatal mortality has declined slowly, highlighting the need for strengthened capacity among healthcare workers managing small and sick newborns.

The aim of the study is to describe the development, validation, and launch of integrated Comprehensive Newborn Care and Essential Newborn Care training packages to strengthen healthcare workers' capacity in managing small and sick newborns in Kenya.

A national assessment of newborn care services in 75 hospitals identified critical gaps in knowledge and skills. Through a consultative process involving neonatologists, pediatricians, neonatal nurses, clinical officers, academia, and the Ministry of Health, integrated Comprehensive Newborn Care (CNC) and Essential Newborn Care (ENC) training packages were developed. The packages aligned with World Health Organization standards and national guidelines and focused on major causes of neonatal morbidity and mortality, infection prevention and control, neonatal transport, and care of preterm and low-birth-weight infants. The training materials were pre-tested, validated, and launched in 2024.

A total of 574 healthcare providers from 75 public hospitals were trained, including nurses (259), clinical officers (79), pediatricians (55), medical officers (49), anesthetists (50), midwives (48), obstetricians (27), and neonatologists (7). Additionally, 120 trainers of trainers were prepared to support nationwide scale-up. Training incorporated lectures, simulation-based learning, skills demonstrations, facility visits, and continuous assessment. Post-training interventions included mentorship, provision of bubble CPAP machines, pulse oximeters, subsidized caffeine citrate, and establishment of skills laboratories to sustain quality improvement.

The integrated CNC and ENC training packages have strengthened multidisciplinary newborn care capacity across Kenya. Continued mentorship, equipment support, and integration of newborn care competencies into pre-service curricula are critical for sustaining gains and accelerating reductions in neonatal mortality.

Keywords: *Neonatal mortality, Comprehensive Newborn Care, Essential Newborn Care*

3. ASSESSMENT OF IN-VITRO DISSOLUTION PROFILES OF MARKETED ALBENDAZOLE TABLETS IN NAKURU COUNTY, KENYA

Sarah Vugigi[1]*, Nathan Kipsang, and Anderson Chebon

School of Pharmacy, Department of Pharmaceutical Chemistry & Pharmaceutics, Kabarak University, Kenya

Email: svugigi@kabarak.ac.ke

Abstract

Helminth infections affect over 1.5 billion people worldwide and remain highly endemic in Asia, sub-Saharan Africa, and South America. In Kenya, over five million people, particularly school-aged children, are at risk. Albendazole, a benzimidazole derivative, is widely used for the treatment and control of helminthiasis. However, as a Biopharmaceutics Classification System (BCS) Class II drug, albendazole exhibits low solubility making its

absorption dependent on dissolution. Variations in dissolution performance among marketed products may therefore result in differences in bioavailability and therapeutic efficacy.

The aim of this study is to evaluate the in-vitro dissolution profiles and selected quality attributes of marketed albendazole chewable tablets available in Nakuru County, Kenya.

Seven brands of albendazole chewable tablets were randomly purchased from pharmacy outlets in Nakuru, Kenya. Laboratory analyses were performed at the School of Pharmacy, Kabarak University. Samples were subjected to quality tests, including assay, disintegration, and dissolution, in accordance with United States Pharmacopeia (USP) specifications.

All seven brands complied with assay requirements, with drug content ranging from 95.4% to 103.3% of the labelled amount. Four brands met the specification for immediate-release tablets by disintegrating within 15 minutes, one brand disintegrated after 33 minutes and two brands failed to disintegrate within 60 minutes. Four brands failed the USP dissolution test, releasing only 0.9%, 1.6%, 7.3%, and 20.8% of the labelled drug content after 30 minutes, and showed dissolution profiles dissimilar to the reference product.

Only three of the seven evaluated brands met acceptable standards for assay, disintegration, and dissolution. Presence of products with poor dissolution despite acceptable drug content highlights the need for continuous post-marketing surveillance to ensure pharmaceutical equivalence and patient safety.

Keywords: *Albendazole; Bioavailability; Dissolution Testing; Pharmaceutical Equivalence.*

4. TOWARDS A STANDARDIZED EMERGENCY TRIAGE IN RESOURCE-LIMITED SETTINGS: EVIDENCE FROM NAKURU COUNTY REFERRAL AND TEACHING HOSPITAL

Valerie Suge

School of Medicine and Health Sciences, Kabarak University

Email: vsuge@kabarak.ac.ke

Abstract

Triage is a fundamental process in emergency care that ensures patients receive timely attention according to the severity of their condition, thus enabling the efficient use of limited resources. Globally, inadequate triage knowledge and training in resource-limited settings have been associated with inconsistent patient prioritization, delayed care, and adverse outcomes. In Kenya, implementation of standardized triage protocols remains fragmented, particularly in county-level referral hospitals, where structural and human resource challenges persist. This study therefore assessed the knowledge and triage practices of healthcare providers in the emergency department at Nakuru County Referral and Teaching Hospital (NCRTH), Kenya.

The aim of this study is to assess the level of triage knowledge and describe triage practices among emergency department staff at Nakuru County Referral and Teaching Hospital, Kenya.

A facility-based descriptive cross-sectional study was conducted among 62 emergency department and acute care nursing staff at NCRTH. Proportional stratified sampling with systematic random selection within strata was employed. Data were collected using a structured, self-administered questionnaire that assessed triage knowledge, training status, familiarity with triage systems, and current practice. Reliability of the tool was confirmed by a Cronbach's alpha of 0.81. Data were analyzed using SPSS version 27, with descriptive statistics and multiple-response analysis.

Of 62 questionnaires distributed, 55 were returned, yielding a response rate of 88.7%. Most respondents were female (63.6%), aged 26 to 35 years (54.6%), and held diploma-level qualifications (56.4%). Formal triage training

had been received by 60.0% of respondents, while 40.0% had received none. Color-coded triage was the most recognized system (34.5%), followed by the Emergency Severity Index (21.8%) and SATS/START (14.5%). The majority of staff prioritized patient ordering (33.3%), improvement of outcomes (22.7%), and saving lives (12.1%) as the key benefits of triage. Vital signs (90.6%), random blood sugar (94.3%), and GCS assessment (88.7%) were the most recommended components for a context-specific triage protocol. Understaffing (42.6%), limited resources (31.9%), and inadequate training (29.8%) were the primary barriers to effective triage.

Emergency department staff at NCRTH demonstrated general awareness of triage and its clinical significance; however, gaps in formal training, familiarity with standardized triage systems, and uniformity of practice were identified. Structured, ongoing triage training and the development of context-appropriate, standardized triage protocols are essential to enhance the consistency and effectiveness of emergency care delivery.

Keywords: *Triage; emergency department; knowledge; nursing practice; Kenya; resource-limited settings*

5. MAPPING AND MODELLING COST EFFECTIVE GENDER TRANSFORMATIVE SRHR INTERVENTIONS FOR RESILIENT PRIMARY HEALTH CARE SYSTEMS IN KENYA

Arthur K.S. Ng'etich[1]*, Johanna Riha[2]

[1]School of Medicine and Health Sciences, Department of Public Health, Kabarak University, [2]United Nations University - International Institute for Global Health, Kuala Lumpur, Malaysia

Email: akngetich@kabarak.ac.ke

Abstract

Gender inequality is a structural determinant of poor sexual and reproductive health and rights (SRHR) outcomes and constrains progress toward universal health coverage and resilient primary health care (PHC). Decision makers lack consolidated evidence on which gender-transformative SRHR interventions work, where gaps remain, and which options provide economic value.

The aim of this study is to map evidence on gender-focused SRHR interventions using an evidence and gap map, identify priority gaps and implications, and model the cost-effectiveness of exemplar gender-transformative interventions for PHC system in Kenya.

A structured EGM was developed from 3,280 records identified through nine academic databases, eight grey literature repositories, and manual reference searching. 128 studies met inclusion criteria. Studies were classified by intervention type, population, SRHR domain, geography, design, and explicit gender theory. Three interventions with sufficient effectiveness and cost data were modelled using decision tree cost-effectiveness analysis. Costs were inflated to 2023 USD, outcomes expressed as disability adjusted life years (DALYs) averted, and the Kenyan threshold set at 0.5×GDP per capita (USD 982/DALY). Sensitivity analyses varied cost, effectiveness, discount rate, and HIV incidence setting.

Evidence clustered around HIV prevention, intimate partner violence reduction, male engagement, and community mobilization. Digital SRHR, humanitarian settings, child marriage, and female genital mutilation remained under studied, leaving high burden policy areas with limited economic evidence. Only about 41% of included studies (52/128) articulated an explicit gender theory. Three interventions were deemed cost-effective including community mobilization for IPV prevention (USD 423/DALY; range USD 200-715), male engagement integrated with RMNCH (USD 455/DALY; USD 211-769), and microfinance coupled with gender training (USD 697/DALY; USD 404-1,244), the latter conditionally dependent on HIV incidence.

Gender-transformative SRHR interventions can deliver health, equity, resilience, and economic value when integrated within PHC reform architecture in Kenya through primary care networks and RMNCH platforms.

Keywords: *Gender equality, SRHR, Health care systems, Primary Health care*

6. THE HIDDEN COST OF SERVICE: RECOGNIZING AND ADDRESSING BURNOUT FOR A HEALTHIER AND RESILIENT PROFESSIONAL

Margaret Mbindyo

Department of Exploratory Studies and Student Development, Millersville University

Email: Margaret.Mbindyo@millersville.edu

Abstract

The reality of any profession is characterized by exposure to stress, burnout, doubt, resource limitations, cultural disparities, and complex ethical dilemmas which can contribute significantly to high rates of professional burnout, compassion fatigue, and talent attrition. Across the globe, high-demand professions are facing a massive wave of chronic stress, exhaustion, and talent loss (Maslach & Leiter, 2016). The World Health Organization (2019) now officially recognizes burnout as a widespread occupational phenomenon rather than an individual flaw. Whether in healthcare, education, or any corporate service sector, organizations push their workers to give their time to service without consideration. This may create a culture where workplace demands constantly outpace institutional support and where individual self-care is no longer enough to prevent total mental breakdown, exhaustion and compassion fatigue (Lipsky & Burk, 2009).

The aim of this study is to examine the specific organizational and psychological drivers of professional burnout, and to provide professionals with a practical, evidence-based framework for establishing robust boundary management and sustainable self-care practices (Lipsky & Burk, 2009; Maslach & Leiter, 2016). Specifically, this session intends to work with attendees to:

By applying effective stress management techniques such as realistic optimism, energy audit and mindfulness, professionals can augment their resiliency and maintain a sense of balance. These strategies are essential for building a more resilient and stable workforce. Considering our own spheres of influence as healthcare professionals, educators, directors, managers, and colleagues, how can we address stress and isolation to intervene and provide spaces to recover and care for ourselves and others?

The session will discuss how to recognize burnout as represented in the 12 stages of burnout originally developed by Freudenberger and North (1985). This is important because those prone to emotional and physical exhaustion are more likely to make medical errors and demonstrate poor clinical judgement.

By understanding burnout and focusing on selfcare and well-being as core competencies, professional work becomes a meaningful, purpose-driven act, resulting in greater commitment to personal well-being and improved ability to be resilient.

Keywords: *Burnout, Resilience, Well-being*

7. ASSOCIATION BETWEEN FAITH-BASED TEACHINGS AND TEENAGE PREGNANCY AMONG ADOLESCENT GIRLS IN LAIKIPIA WEST SUB-COUNTY, KENYA

Wekesa Robert Wafula

School of Medicine and Health Sciences, Department of Public Health, Kabarak University

Email: rwafula@kabarak.ac.ke

Abstract

Teenage pregnancy among adolescent girls is associated with school dropouts, unintended marriages, family strife, anxiety, abortion, death, and intergenerational poverty. Approximately 21 million adolescent girls become pregnant annually in developing countries, and 106 births per 1,000 adolescents in Sub-Saharan Africa. Eastern

Africa has the highest prevalence of 54.6% in Africa. Kenya has the third-highest adolescent birth rate globally, with one in every five adolescent girls having already given birth. In Laikipia, faith-based organizations provide approximately 30-70 percent of health services in underserved areas. Despite these efforts, scant evidence exists on why teenage pregnancy among adolescent girls rose from 14% in 2016 to 32% in 2020 in Laikipia.

This study will examine the association between faith-based teachings and teenage pregnancy among adolescent girls, examining prevalence, knowledge of sexual abstinence, and delivery strategies to inform multisectoral and resilient faith-integrated approaches.

An analytical cross-sectional study design will be employed. Quantitative data will be collected from 125 adolescent girls via multi-stage sampling and semi-structured questionnaires administered through Kobo Collect. Binary logistic regression and descriptive analyses will examine associations. In-depth interviews with public health officers, women with lived experience, and pastors, as well as focus group discussions, will be used to collect qualitative data, which will be thematically analyzed.

Findings will quantify the prevalence and associations between faith-based teachings and teenage pregnancy.

This study will demonstrate how social norms, attitudes, and beliefs influence the attainment of universal health coverage. This will enhance collaboration among interfaith actors, the government, and development partners towards developing resilient ASRH systems.

Keywords: *teenage pregnancy, faith-based teachings, adolescent sexual reproductive health, sexual abstinence, Laikipia West, multisectoral interventions, universal health coverage*

8. ASSESSMENT OF THE CAPACITY OF SELECTED CLINICAL PLACEMENT SITES IN SUPPORTING THE DEVELOPMENT OF NURSING STUDENTS' CLINICAL SKILLS AND COMPETENCE IN BOMET AND KERICHO COUNTIES, KENYA

Towett Phillip

School of Medicine and Health Sciences, Department of Nursing, Kabarak University

Email: ptowett@kabarak.ac.ke

Abstract

Clinical placement sites play a critical role in translating nursing students' theoretical knowledge into practical clinical skills and professional competence. However, the quality of clinical learning may be constrained by overcrowding, inadequate mentorship, limited resources, and weak linkage between training institutions and health facilities.

The aim of this study is to assess the capacity of selected clinical placement sites in Bomet and Kericho Counties, Kenya, to support the development of nursing students' clinical skills and competence.

This study used a mixed-methods design (QUAN + QUAL) to assess the capacity of clinical placement sites in Bomet and Kericho Counties to support nursing students' skills development. Clinical placements are crucial for translating theoretical knowledge into practical skills, but their quality can be affected by resource limitations. Data was collected from students, nurse educators, nurse managers, and principals of nurse training institutions using questionnaires, Key informant interviews, and Focused Group Discussions, which achieved a response rate of 89.5 per cent (N=213). Students reported high confidence in basic nursing procedures (M=4.03), indicating successful skill acquisition. However, the development of full competence was significantly hindered by overcrowding, resulting in high student-to-patient and student-to-instructor ratios. Qualitatively, Nurse Managers reported that hospital staff were overwhelmed, leading to inconsistent mentorship. Stakeholders emphasized the need for increased investment in simulation-based learning to bridge the theory-practice gap.

The study concludes that while the system successfully builds basic student confidence, the quality of competence development is severely compromised by resource limitations and pervasive clinical overcrowding. Urgent systemic reform is required. The study strongly recommends that clinical placement sites establish a formal capacity management system based on effective student-to-patient ratios, standardize and resource a protected clinical mentorship program, and strategically invest in modern simulation infrastructure to secure the competence of future nurses.

Keywords: *Capacity, clinical competence, clinical placement, nursing education, mentorship, overcrowding.*

9. FACTORS AFFECTING COMPLEMENTARY FEEDING PRACTICES OF CHILDREN 6-23 MONTHS IN DEVELOPING COUNTRIES: A REVIEW

Mohamed Siraji Hassan

Kabarak University, School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics

Email: mohirmed@gmail.com

Abstract

Good nutrition is essential for the healthy growth and development of children, especially during the first two years of life. At six months, children should begin receiving safe and nutritionally adequate complementary foods alongside breastfeeding. Appropriate complementary feeding practices help reduce malnutrition and improve child health outcomes. However, in many developing countries, few children receive adequate complementary foods, leading to poor feeding indicators.

This review systematically examined factors affecting complementary feeding practices among children aged 6-23 months in developing countries. A literature search was conducted using PubMed, Elsevier, and Google Scholar to identify relevant studies published between 2014 and 2024. Twenty-five studies were initially retrieved, and sixteen met the inclusion criteria for data synthesis.

The review identified several factors influencing complementary feeding practices, including child age, maternal education, marital status, occupation, caregiver knowledge, postnatal care attendance, household wealth, household size, maternal decision-making on family income, access to media and internet, social support, and place of residence. Mothers with higher education levels were more likely to adopt appropriate feeding practices due to better access to nutrition information and improved decision-making skills. Economically stable households were also more likely to provide diverse and nutritious foods, while postnatal care services offered important nutrition counselling to caregivers.

To improve complementary feeding practices, policies should strengthen maternal education, household economic empowerment, and integration of nutrition counselling into postnatal care services. Governments and health agencies should also support community-based programs and media campaigns to increase awareness and support for caregivers.

Keywords: *Complementary feeding practices; children 6-23 months; developing countries; caregiver; postnatal care; literature review.*

10. THE LEGISLATIVE AND REGULATORY LANDSCAPE OF NURSE PRACTITIONER PRACTICE IN THE UNITED STATES

Michele Chronister and Bryan Weinberg-Wonsidler
Wehrheim School of Nursing, Millersville University
Email: Michele.Chronister@millersville.edu

Abstract

As Nurse Practitioners (NPs) navigating the U.S. regulatory environment, we present a conceptual policy review of the legislative and regulatory frameworks governing NP practice and examine their relevance for Kenya as it considers formalizing the advanced practice nursing role.

This presentation aims to support Kenyan health leaders, educators, and policymakers in exploring and strengthening a contextually appropriate regulatory foundation for future Kenyan Nurse Practitioners.

We distinguish between national certification, which verifies clinical competence across the United States, and state licensure, which grants legal authority to practice. We then analyze the evolution of Nurse Practitioner Full Practice Authority (FPA), a legislative designation allowing NPs to independently evaluate, diagnose, interpret diagnostic tests, and manage treatment, including prescribing medications, without mandatory physician supervision.

U.S. NP practice is categorized into three regulatory models: Full Practice, where NPs practice independently; Reduced Practice, which requires a regulated collaborative agreement with a physician for at least one element of care; and Restricted Practice, which mandates physician supervision for multiple aspects of care. These models illustrate varying degrees of NP autonomy and regulatory oversight. While Full Practice Authority has been associated with improved access to care, especially in rural and underserved areas, differences in healthcare infrastructure, workforce distribution, and policy environments must be considered when applying these lessons globally.

Lessons from the U.S. regulatory landscape provide a valuable framework to inform Kenya's development of NP policy. Emphasis should be placed on building strong professional organizations, establishing clear scope-of-practice regulations, and implementing context-specific strategies that support safe, effective, and sustainable NP role integration into the healthcare system.

Keywords: *Full Practice Authority, Nurse Practitioner Regulation, State Licensure, National Certification, Scope of Practice, Regulatory Reform, Advanced Practice Nursing Policy*

11. DETERMINANTS OF PROVISION OF POST-ABORTION CARE SERVICES IN HEALTH CARE FACILITIES IN KISUMU CENTRAL SUB-COUNTY

Ochiel Tabitha Anyango
School of Medicine and Health, Department of Public Health, Kabarak University Email: tabithaochiel@kabarak.ac.ke

Abstract

Post-Abortion Care (PAC) services constitute a critical health intervention that manages abortion-related complications, provides family planning services, and contributes to the reduction of maternal mortality. Despite its importance, provision remains inconsistent across health facilities. Significant disparities persist, particularly between public and private facilities and across facility levels. Although Kisumu County has experienced improvements in maternal health indicators, maternal mortality remains above the national average, highlighting the need to understand factors influencing PAC service provision.

The aim of this study is to examine factors associated with the provision of post-abortion care services in health facilities in Kisumu Central Sub-County.

The study will employ a facility-based cross-sectional design. Structured questionnaires will be self-administered to healthcare workers including nurses, clinicians, medical officers and programme managers who serve as the first point of contact for PAC services through assessment, counselling, initial management, referral, or follow-up care. Data will be analysed using SPSS version 29. Chi-square tests will be used to assess associations between variables at a significance level of $\alpha = 0.05$, followed by multivariable logistic regression to identify factors independently associated with PAC service provision and predictor variables grouped into facility, provider, socio-cultural, and health system factors.

The study is expected to identify facility, provider, socio-cultural, and health system factors associated with PAC service provision in health facilities. Provider training and knowledge, availability of essential supplies and equipment, supportive referral systems, and positive provider attitudes are anticipated to be positively associated with PAC service provision

Findings will inform evidence-based strategies for strengthening PAC services, improving quality and accessibility of care, reducing maternal mortality, and supporting progress toward Universal Health Coverage and the Sustainable Development Goals.

Ethical approval will be obtained from relevant review bodies. Participation will be voluntary, with informed consent, privacy, confidentiality, and anonymity maintained throughout the study.

Keywords: *Post-Abortion Care; Healthcare Workers; Service Provision; Maternal Health; Kisumu County*

12. DIETARY PRACTICES AND DETERMINANTS OF NUTRITION STATUS AMONG ADOLESCENTS LIVING WITH HIV AT LONGISA COUNTY REFERRAL HOSPITAL, KENYA

Fancy Chepkoech[1]*, Miriam Muga[1] and Dorothy Mituki[2]

[1]Kabarak University, School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics,
[2]Egerton University, Faculty of Health Sciences, Department of Foods, Nutrition and Dietetics

Email: fancy@kabarak.ac.ke

Adolescents living with HIV are at increased risk of undernutrition due to heightened metabolic demands and suboptimal dietary practices. This study assessed dietary practices and factors associated with nutrition status among adolescents living with HIV at Longisa County Referral Hospital using analytical cross-sectional design among 92 respondents. Data were collected using questionnaires and analyzed using SPSS version 26 and Nutri survey. Anthropometric measurements were analyzed using BMI; in kg/m2 for age, 18-19 and BMI/Age for age 10-17. Dietary diversity was assessed using a 24-hour dietary recall. Results showed that majority of the respondents were aged 10-17 years (66.3%). High prevalence of undernutrition classified as thinness was identified among males (48.4%). Despite 90.2% receiving nutrition counselling (63.0%) reported skipping meals and (65.2%) achieving a moderate DDS (4-5 food groups). Skipping meals significantly increased the odds of undernutrition (COR=3.00, 95% CI: 1.20-7.52, p=0.019; AOR=3.80, p=0.046). A low dietary diversity score (DDS ≤ 3) (P=0.022), current Tuberculosis treatment (p=0.049), Antiretroviral therapy's side effects (p=0.011) were significantly linked to undernutrition. The study highlights a persistent link between poor dietary practices and undernutrition among adolescents in care and emphasize the need for strengthening routine dietary assessment and proactive management of ART side effects to improve nutritional outcomes.

Keywords: Adolescents, Determinants, Dietary Practices, Human Immunodeficiency Virus, Undernutrition

13. MOBILIZING THE POWER OF NURSING THROUGH NURSE PRACTITIONER

Augustine C. Chebarwett[1]

Wehrheim School of Nursing, Millersville University

Email: changwony@gmail.com

Abstract

In the context of growing global health complexities and an increasing prevalence of chronic conditions, the traditional role of nurses necessitates critical reevaluation. Nurse practitioners (NPs), as advanced practice registered nurses with graduate-level education, are uniquely positioned to address these evolving healthcare demands. Trained in assessing patients, diagnosing illnesses, ordering and interpreting diagnostic tests, and prescribing treatments, NPs contribute significantly to lower healthcare costs and improved accessibility of care without compromising quality.

This presentation seeks to explore the potential benefits of NPs role in Kenya in attaining universal health coverage through improvement of access, quality, and cost effectiveness based on US policy analysis and empirical evidence.

Empirical studies demonstrate that NPs across diverse specialties deliver care that is comparable to, and in some cases surpasses, physician-only models in terms of patient outcomes, cost-effectiveness, and resource utilization. These findings underscore the critical role of NP-led models in optimizing healthcare delivery and meeting the needs of complex patient populations. In the US, NPs role varies from State to State, with the major contention being whether to allow full practice authority or impose restrictions. Studies demonstrate that in States which allow full practice, evidence indicates improved access, especially in underserved areas, without compromising quality. In contrast, restrictive policies and regulations have been associated with increased inequities and poor health outcomes.

Evidence from US practice environments suggests that NP-led care improves access, enhances quality, and reduces disparities. These findings provide insight into how expanding NP roles may support Kenya's efforts toward universal health coverage.

This discussion underscores the need to highlight the NP role in attaining universal health coverage. Therefore, it is imperative for policy makers, advocacy groups, and community leaders to recognize the role of NPs beyond direct care through evidence-based practice, interprofessional collaboration, and promotion of universal health coverage.

Keywords: *Nurse Practitioner, global health, advanced practice nursing, nursing leadership, healthcare access, health equity, chronic disease management*

14. PSYCHOCOGNITIVE OUTCOMES AT FIRST PRESENTATION FOLLOWING CONTACT CHILD SEXUAL ABUSE AMONG ADOLESCENTS AT NAKURU COUNTY REFERRAL AND TEACHING HOSPITAL

Mumo Irene[1]*, Pamela Kimeto[2], Vincent Mukthar[2]

[1]Department of Clinical Medicine, School of Medicine and Health Sciences, Kabarak University, [2]Department of Nursing, School of Medicine and Health Sciences, Kabarak University

Email: ikilambya@kabarak.ac.ke

Abstract

Child sexual abuse is a major public health and human rights concern with important psychocognitive consequences among adolescents. However, limited evidence exists on psychocognitive outcomes at the time of first clinical presentation following abuse, particularly in low-resource settings such as Kenya where routine

early mental health screening remains underutilized despite standardized documentation using the Ministry of Health Post-Rape Care (MOH 363) form.

This study aims to assess psychocognitive outcomes at first presentation following contact child sexual abuse among adolescents aged 10-19 years attending Nakuru County Referral and Teaching Hospital and to examine the relationship between time to presentation and psychocognitive outcomes.

A facility-based retrospective cross sectional analytic study will be conducted using secondary data extracted from MOH 363 Post-Rape Care forms and Gender-Based Violence clinic registers for adolescents presenting between 2024 and 2025. Descriptive statistics will summarize abuse characteristics, timing of presentation, and psychocognitive findings. Associations between time to presentation and psychocognitive impairment will be examined using chi-square tests and logistic regression models adjusted for potential confounders including age, sex, trauma severity, perpetrator relationship, frequency of abuse, and use of threats or force. All extracted data will be anonymized and handled confidentially.

Findings from this study will generate facility-based evidence on early psychocognitive outcomes following contact child sexual abuse and clarify how delays in presentation influence clinical mental health findings at first assessment, thereby supporting improved early screening, trauma-informed care, and evidence-based strengthening of GBV response services for adolescents in referral-level hospitals in Kenya.

Keywords: *Child sexual abuse, Post-rape care, Psychocognitive outcomes, GBV response*

15. EFFECTIVENESS OF CLINICIAN APPRAISAL AS THE PRIMARY DIAGNOSTIC METHOD FOR AUTISM SPECTRUM DISORDER IN RESOURCE-LIMITED SETTINGS: A SYSTEMATIC REVIEW

Onesmus Chirchir, Shadrack Bett

Department of Clinical Medicine, School of Medicine and Health Sciences, Kabarak University

Email: kipkiruichirchir@kabarak.ac.ke

Abstract

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition that demands accurate and comprehensive diagnostic approaches to ensure timely intervention and effective support. In many resource-limited settings, however, the diagnosis of ASD often depends primarily on clinician appraisal rather than standardized diagnostic tools. This dependence arises from challenges such as limited access to specialized instruments, inadequate training among healthcare professionals, and cultural variations that affect how symptoms are perceived and interpreted. Recognizing these challenges, this review was undertaken to assess the effectiveness of clinician appraisal as a diagnostic approach for ASD in resource-constrained environments, with particular attention to clinician expertise, training, and cultural influences on diagnostic accuracy.

The primary objective of the review was to evaluate factors influencing the accuracy and reliability of clinician appraisal in diagnosing ASD.

A systematic review was conducted between August and September 2024 using five electronic databases: Google Scholar, Scopus, PubMed, HINARI, and African Journals Online (AJOL). From a total of 1009 retrieved articles, 19 met the inclusion criteria for methodological appraisal, and 12 high-quality studies were selected for detailed analysis.

Findings revealed significant variability in the effectiveness of clinician appraisal across different regions. In countries such as Nigeria, Kenya, and Uganda, clinician-based diagnosis showed moderate to limited accuracy,

largely due to inadequate training, lack of standardized diagnostic tools, and strong cultural influences on caregiver and clinician perceptions. Conversely, studies from China and the United Kingdom demonstrated higher diagnostic accuracy when clinician judgment was complemented by structured assessment tools and continuous professional development in autism diagnosis.

In conclusion, while clinician appraisal remains a vital component of ASD diagnosis in resource-limited settings, it is insufficient as a standalone method. Integrating structured diagnostic instruments, culturally sensitive training programs, and multidisciplinary collaboration can significantly enhance diagnostic precision. The review supports global recommendations for multifaceted diagnostic approaches to strengthen early identification and management of ASD across diverse healthcare contexts.

Keywords: *Autism Spectrum Disorder, Systematic review, Clinician appraisal, Resource-limited settings*

16. FACTORS CONTRIBUTING TO INADEQUATE EXCLUSIVE BREASTFEEDING AMONG CHILDREN 0-6 MONTHS IN DEVELOPING COUNTRIES. A REVIEW

Mohamedkhalid Hared

School of Medicine and Health Sciences, Kabarak University

Email: mderow@kabarak.ac.ke

Abstract

Background: Exclusive breastfeeding for the first six months is essential for optimal infant health and development, yet its practice remains inadequate in many developing countries due to a range of interconnected factors. Appropriate exclusive breastfeeding practices are important in reducing the incidence of malnutrition and improving the health and growth outcome of children. However, a few children receive exclusive breastfeeding as it is needed hence resulting to low indicators of exclusive breastfeeding practices in developing countries.

The objective of this review is to systematically investigate, review and integrate findings from different studies to determine factors contributing to inadequate exclusive breastfeeding practices of children aged 0-6 months in developing countries.

A literature search on factors contributing to inadequate exclusive breastfeeding practices in developing countries was undertaken in PubMed, Cochrane, Elsevier, PLOS One, EMBASE to identify relevant studies between 2015 and 2025

Twenty-nine studies were initially retrieved, with ten studies that met the study inclusion criteria chosen for data synthesis. Factors found to contribute to the inadequate exclusive breastfeeding were: age and gender of the child, occupation of the mother, age of the mother, education level of the mother, marital status of the mother, mode of delivery, family size, antenatal visits, place of residence, household income, and exclusive breastfeeding intention during pregnancy.

Exclusive breastfeeding practices for children 0-6 months are influenced by multifaceted factors that should be considered when developing strategies to improve nutrition and prevent diseases associated with poor nutrition, thus boosting children's chances of survival.

Keywords: *Inadequate exclusive breastfeeding, breastfeeding rate, exclusive breastfeeding (EBF) infant nutrition*

17. NUTRITION KNOWLEDGE, DIETARY PRACTICES AND NUTRITION STATUS AMONG PREGNANT WOMEN: A SYSTEMATIC REVIEW

Cheruto Olympia[1]*, Bor Wesley[1] and Chege Peter[2]

[1]School of Medicine and Health, Department of Nursing, Kabarak University, [2]Kenyatta University

Email: molympia@kabarak.ac.ke

Abstract

Maternal nutrition is a key determinant of pregnancy outcomes, fetal development, and long-term child health. Adequate nutrition knowledge can influence dietary practices and subsequently affect nutritional status during pregnancy. However, evidence regarding the relationship between nutrition knowledge, dietary practices, and nutritional status among pregnant women remains inconsistent across different settings, particularly in low- and middle-income countries where maternal undernutrition and micronutrient deficiencies remain prevalent.

The aim of this study is to synthesize available evidence on the relationship between nutrition knowledge, dietary practices, and nutritional status among pregnant women and identify factors influencing maternal nutrition outcomes.

A systematic review was conducted following the PRISMA 2020 guidelines. Electronic databases including PubMed, Scopus, and Google Scholar were searched for studies published between January 2020 and December 2025. Observational and intervention studies examining nutrition knowledge, dietary practices, and/or nutritional status among pregnant women were included. After screening and eligibility assessment, 10 studies were included in the final review. Data were extracted using standardized forms and synthesized narratively due to heterogeneity in study designs and outcome measures.

Ten studies involving pregnant women from various low- and middle-income countries were reviewed. The findings showed that nutrition knowledge levels varied considerably, with many women demonstrating limited understanding of dietary diversity, micronutrient requirements, and balanced diets during pregnancy. Poor dietary practices were common, including low dietary diversity, inadequate consumption of iron-rich and protein-rich foods, and reliance on staple foods. Several studies reported a positive association between higher nutrition knowledge and improved dietary practices. However, socioeconomic factors such as education level, household income, food insecurity, cultural beliefs, and access to antenatal care significantly influenced dietary behaviours and nutritional outcomes. Poor dietary practices were consistently associated with adverse nutritional outcomes, including anaemia, undernutrition, and inadequate gestational weight gain.

Nutrition knowledge contributes positively to dietary practices among pregnant women; however, knowledge alone is insufficient to improve nutritional status. Structural factors including poverty, food insecurity, limited access to diverse foods, and sociocultural influences often constrain the translation of knowledge into healthy dietary behaviours. Comprehensive interventions addressing both educational and socioeconomic barriers are therefore essential for improving maternal nutrition outcomes. Maternal health programs should strengthen nutrition education within antenatal care services while integrating food security interventions, economic empowerment strategies, and community-based nutrition programs.

Keywords: *Nutrition knowledge, dietary practices, nutritional status, pregnancy, maternal nutrition, dietary diversity, systematic review.*

18. ONLINE FOOD DELIVERY APPLICATION UTILIZATION AND NUTRITIONAL STATUS AMONG YOUNG AND MIDDLE-AGED ADULTS (16-45 YEARS): A SYSTEMATIC REVIEW OF OBSERVATIONAL STUDIES

Nancy Anyango Opiyo and Miriam Adoyo Muga

[1]Kabarak University, School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics

Email: nancyanyangoopiyo1998@gmail.com

Abstract

Online food delivery applications (OFDAs) have transformed food access among young and middle-aged adults, raising concerns about potential impacts on nutritional status. This systematic review synthesized evidence on the relationship between OFDA utilization and nutritional status.

This systematic review synthesized evidence on the relationship between OFDA utilization and nutritional status among adults aged 16-45 years. The research question was defined using PICO: Population (adults aged 16-45 years), Exposure (OFDA use), Comparison (non-users or less frequent users), Outcome (BMI, overweight, obesity).

Following PRISMA 2020 guidelines, a search of PubMed, Google Scholar, Science Direct, and PsycINFO was conducted for observational studies published between 2021 and 2026. The review protocol was not registered in PROSPERO because the registry primarily accepts interventional reviews (e.g., randomized controlled trials) and this review focused exclusively on observational cross-sectional studies. Seven cross-sectional studies from Indonesia, Malaysia, the Philippines, and Oman (total n=1,916 participants) were included. Methodological quality was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist.

Five studies reported no significant association between OFDA use and nutritional status ($p>0.05$), while two studies found significant positive associations with frequent use ($p=0.045$ and $p<0.001$). Inconsistencies arose from measurement differences: studies assessing general usage found no association, whereas those measuring frequency of ordering reported significant associations. Effect sizes varied: Cramer's $V = 0.203$ (moderate association), correlation coefficient $r = 0.027$ (very weak) and odds ratio $OR = 38.225$ (95% CI: 4.286-340.896). Risk of bias assessment revealed four low risk studies, one moderate, one moderate-to-high, and one high risk. The geographical concentration in Asian contexts limits generalizability.

General OFDA use does not consistently predict nutritional status among adults aged 16-45 years, though frequent use among adolescents may be concerning. Causal conclusions cannot be drawn due to cross-sectional designs.

Keywords:

19. IMPLICATIONS OF FEEDING OPTIONS AND CAREGIVING PRACTICES AMONG ADOLESCENT MOTHERS ON NUTRITIONAL STATUS OF INFANTS AGED 0-6 MONTHS: A SYSTEMATIC REVIEW

Nyaboke Okeiga Edith Mary, Waruguru Phyllis and Bor Wesley

[1]Kabarak University, School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics

Email: edithnyaboke@kabarak.ac.ke

Abstract

Optimal infant feeding and caregiving practices during the first six months of life are critical for growth, development, and survival. However, adolescent mothers face unique psychosocial, developmental, and socio-cultural challenges that compromise these practices, with implications for infant nutritional outcomes.

This systematic review synthesized evidence from studies published between 2017 and 2026 on infant feeding and caregiving practices among adolescent mothers and their impact on infants aged 0-6 months.

The PRISMA guidelines were employed for study selection, where the criteria for population, intervention, outcomes, publication date, study design, and language were clearly outlined. Seven studies met the inclusion criteria, encompassing diverse settings across sub-Saharan Africa, Asia, and Latin America.

Findings revealed consistently low rates of exclusive breastfeeding (28.5-50%), high prevalence of prelacteal feeding (38-62.5%), and early introduction of complementary foods (49.3-93.7%). Caregiving practices were often inadequate, with adolescent mothers reporting limited childcare skills, reliance on relatives or traditional practices, and challenges in hygiene and health-seeking behaviours. Nutritional outcomes among infants of adolescent mothers were poor, with stunting (22-29.5%), wasting (12-17.1%), and underweight (8.5-22%) rates exceeding global averages. Several of these studies demonstrated significant associations between reported feeding practices and infant growth indicators. Studies from Kenya, Nigeria, and Mexico reported underweight status being significantly associated with breastfeeding status (P=0.000), infant weight and breastfeeding duration indicating a significant positive correlation (r=0.252; p=0.000), and exclusive breastfeeding being associated with increased length for age Z score (P=0.040), respectively.

Overall, the evidence highlights suboptimal feeding and caregiving practices among adolescent mothers as key contributors to elevated malnutrition risk in infants. Addressing these vulnerabilities requires targeted, multi-level interventions, including breastfeeding support, education on caregiving and hygiene, family and community involvement, and innovative approaches such as technology-assisted programs.

Keywords: *Optimal infant feeding, Adolescent mothers, Systematic review, Caregiving practices*

20. LEVERAGING PAEDIATRIC HIV ADHERENCE DATA TO STRENGTHEN RESILIENT HEALTH SYSTEMS AND INFORM COMPETENCY-BASED HEALTH PROFESSIONS EDUCATION IN KENYA

Norah Talam

School of Medicine and Health Sciences, Department of Public Health, Kabarak University

Email: ntalam@kabarak.ac.ke

Abstract

Building resilient health systems for Universal Health Coverage (UHC) requires innovative, data-driven approaches to improve outcomes and equity. In paediatric HIV care, ART adherence is critical to immunological outcomes and requires strong clinical competencies. Adherence data offer valuable learning opportunities for competency-based health professions education.

The aim of this study is to determine the relationship between ART adherence indicators (timing of drug intake, clinic attendance, pill counts, and pharmacy refills) and CD4 cell count outcomes among HIV-infected children, and highlight implications for resilient health systems and competency-based training.

A cross-sectional analytical study was conducted in 2011 among 535 HIV-infected children aged 3-14 years on ART for at least three months at Kericho District Hospital (KDH), Kenya. Adherence was assessed using multiple measures and linked to CD4 cell count outcomes. Findings were contextualized to inform health systems strengthening and experiential learning. Ethical approval was obtained from IREC and NCST

The mean age was 8.5 years (±3.2 SD); 58.3% were male. Most caregivers were female (77.4%), and 80.0% resided in rural areas, highlighting equity considerations. Adherence levels were 56.1% (timing), 45.7% (clinic attendance), 27.0% (pill counts), and 49.1% (pharmacy refills). Adherence based on correct timing of drug intake and clinic attendance was significantly associated with higher CD4 cell counts.

Timely drug intake and consistent clinic attendance are key determinants of improved immunological outcomes. Strengthening adherence monitoring can enhance continuity of care, promote equity, and support resilient

health systems. These findings provide foundational evidence for competency-based training in adherence assessment, patient counselling, and data-driven HIV care to improve outcomes and advance UHC.

Keywords: *HIV, ART adherence, health systems resilience, Universal Health Coverage, competency-based education*

21. DO SCHOOL FEEDING PROGRAMS IMPROVE NUTRITIONAL STATUS OF SCHOOLCHILDREN IN SUB-SAHARAN AFRICA? A SYSTEMATIC REVIEW

Wendy Muthoni Kimonye, Phyllis Waruguru

Department of Human Nutrition and Dietetics, Kabarak University,

Email: wkimonye@kabarak.ac.ke

Abstract

School feeding programs (SFPs) are increasingly recognized as critical multisectoral interventions that contribute to improved child health outcomes and advance equity in access to nutrition among vulnerable populations. In Sub-Saharan Africa, where food insecurity and child malnutrition remain significant social determinants of health, SFPs provide an important platform for reaching school-aged children from marginalized communities.

This systematic review aimed to evaluate the effectiveness of school feeding programs in improving the nutritional status of schoolchildren in Sub-Saharan Africa.

A comprehensive search of electronic databases, including PubMed, Scopus, AJOL, CINAHL, and Cochrane Library, was conducted for studies published between 2010 and 2024. Ten studies met the inclusion criteria, focusing on key nutritional indicators such as Body Mass Index-for-Age Z-scores (BAZ), Weight-for-Age Z-scores (WAZ), Height-for-Age Z-scores (HAZ), and micronutrient status.

Findings indicate that SFPs significantly improve BAZ and WAZ, reflecting positive effects on growth and reduction of acute malnutrition. However, evidence on HAZ, an indicator of chronic malnutrition, remains inconsistent, while improvements in micronutrient status, particularly iron and zinc, are variable. These differences are influenced by variations in program design, meal quality, duration, and implementation contexts.

School feeding programs serve as equity-focused interventions that address underlying social determinants of health, including poverty and food insecurity, while reducing disparities in access to adequate nutrition. Strengthening program quality, dietary diversity, and multisectoral coordination is essential to enhance their contribution to resilient health systems and equitable health outcomes in Sub-Saharan Africa.

Keywords: *School feeding programs, Child malnutrition, Nutritional status, School children, Sub-Saharan Africa*

22. MICROBIOLOGY DIAGNOSTICS CAPACITY ASSESSMENT: A COLLABORATIVE SURVEY OF SELECT PUBLIC AND FAITH BASED HOSPITALS IN KENYA

Josephat Tonui[1]*, Pamela Kimeto[1], Helmut Khol[1], Jonathan Nthusi[1], Michael Walekhwa[1], Moses Orege[1], Aron Kemboi[1], Feven Birhanu[1], Dino Crognale[2] Anne Njambi[3], Olivia Kruse[4], Ada J Sison[4], Peter C. Melby[4]

[1]School of Medicine and Health Sciences, Kabarak University, [2]Tenwek Hospital, Bomet, Kenya, [3]AIC Kijabe Hospital, Kenya, [4]Center for Tropical Diseases (CTD), University of Texas Medical Branch (UTMB), Galveston Texas, USA

Email: josephat@kabarak.ac.ke

Abstract

Antimicrobial resistance (AMR) is a rapidly escalating global health challenge, projected to cause 10 million annual deaths by 2050 if unaddressed. In Sub-Saharan Africa, and particularly in Kenya, the problem is compounded by inadequate access to affordable and accurate diagnostics, as well as culture and antimicrobial susceptibility testing (AST).

Through a collaborative initiative between Kabarak University and UTMB, we aimed to assess microbiology diagnostic capacity in select public and faith-based hospitals in Kenya and identify gaps that may inform future development of affordable diagnostic solutions for bacterial infections.

We conducted a pilot study with multi-site survey in ten (10) public and faith-based hospitals with varying capacities across Kenya. Data collection combined structured interviews and focus group discussions with clinicians, nurses, and laboratory personnel. The survey explored diagnostic availability and cost, turnaround times, prescribing practices and healthcare worker knowledge attitudes and practices. Ethical approval for the study was obtained from Kabarak University Scientific & Ethics Review Committee, Tenwek and Kijabe Hospital.

Findings revealed disparities in microbiology diagnostics capacity in the hospitals surveyed with lower-level facilities having limited (22%) capacity. Existing culture and AST capacity was not optimal, with significant bottlenecks in specimen processing, clinician-laboratory interface, and lack of antibiograms to guide prescribing. Over 50% of antimicrobial prescriptions were empirical, with limited stewardship oversight.

Significant gaps exist in microbiology diagnostic capacity across the surveyed public and faith-based hospitals, particularly in lower-level facilities. Limitations in culture and antimicrobial susceptibility testing, laboratory-clinician communication, and antimicrobial stewardship contribute to high levels of empirical prescribing. These findings provide critical baseline data to guide strengthening of diagnostic services and inform development of affordable, fit-for-purpose molecular diagnostics for bacterial infections. The study also established the Kabarak University-UTMB Synergistic Alliance for Innovative Low-Cost Diagnostics for Infections in Africa (KUSAIDIA), providing a platform for collaborative innovation to address AMR in low- and middle-income countries.

Keywords: *Microbiology Diagnostics, Diagnostic Capacity Assessment, Antimicrobial Resistance, Antimicrobial Stewardship, Kenya, Low-Cost Diagnostics.*

23. TECHNICAL AND SCALE EFFICIENCY IN HEALTH SERVICE PRODUCTION IN KENYA: SUBNATIONAL ANALYSIS OF 47 COUNTY GOVERNMENTS IN 2022

Tom Achoki MD[1,2]*, Naomi Rotich[1], Dellany K. Bett[1], Josephat Tonui[1], Tabitha Oanda[1], Abaleng Lesego[1], Richard Wamai[4], Yohannes Kinfu[5], Uzma Alam[1], Walter Obiero[1], Lawrence P.O. Were[1,4], Matthew Schneider[5]

[1]Africa Institute for Health Policy, Nairobi, Kenya, [2]Department of Public Health, Baylor University, Waco, Texas, United States, [3]School of Medicine, Kabarak University, Kabarak, Kenya, [4]Department of Health Sciences - Sargent College & Department of Global Health - School of Public Health, Boston University, Boston, Massachusetts, United States, [5]Institute for Health Metrics and Evaluation, University of Washington, Seattle, Washington, United States

Email: tachoki@africahealthpolicy.org

Abstract

Kenya adopted a decentralized health system as part of the efforts to improve access, eliminate inequalities and make progress towards universal health coverage. With significant investments, county governments are charged with the responsibility of delivering healthcare to their population. However, questions remain about the efficiency of resource utilization to meet the health goals.

The aim of this study is to assess health service production in Kenya between 2014 – 2022.

We assembled a dataset comprising health sector inputs, outputs, and contextual factors to measure the efficiency of Kenya's health system across all its forty-seven counties. We estimated overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE) employing Simar and Wilson's single-step data envelopment analysis approach. We assessed the impact of contextual factors on efficiency levels by applying a truncated regression model.

Considering child survival as a health system output, the national average for OTE was 0.74 (95% CI:0.70-0.78), while PTE was 0.85 (95% CI:0.82-0.88) and SE was 0.87 (95% CI:0.85-0.89). Meanwhile, for immunization the national average for OTE was 0.83 (95% CI:0.81-0.87), while PTE was consistently high across the counties. For maternal survival, OTE was low at 0.51 (95% CI:0.48-0.55), and PTE was 0.61 (95% CI:0.57-0.69), with SE averaging 0.82 (95% CI:0.79-0.84). Taking healthy adjusted life expectancy (HALE) as the health system output, average OTE was 0.83 (95% CI:0.81-0.85). There was a high correlation between OTE scores that considered child survival, childhood immunization and HALE as health system outputs. Efficiency scores showed a heterogenous picture across the country both at the provincial and county levels.

In 2022 the Kenyan health system was inefficient. Decision makers in Kenya have an opportunity to improve health outcomes without the injection of additional resources particularly through better managerial practices as pointed by low attainment in PTE. Additionally, lower levels of SE indicate that reorganizing the scale of various health programs to operate at the optimal level would yield improved efficiency. This is particularly relevant at this time when resources are scarce.

Keywords: *Health systems, Efficiency, Data Envelopment Analysis, Subnational Analysis, Health Outcomes*

24. A LOGISTIC REGRESSION MODEL AND CLINICAL TOOL FOR PREDICTION OF HUMAN PAPILLOMA VIRUS VACCINE UPTAKE

Nahashon G. Akunga

Department of Pre-Clinicals and Pharmacognosy, School of Pharmacy, Kabarak University,

Email: nakunga@kabarak.ac.ke

Abstract

Cervical cancer and other HPV-related diseases can be prevented by HPV vaccinations, which are very effective. There are safe and effective vaccines for HPV, but they are not commonly used in many low and middle-income countries, including Kenya. Using predictive models is a key tool to reach targeted interventions and increase vaccination coverage, as it can identify individuals who are at risk of not taking vaccines.

The aim of this study is to develop and test a logistic regression model and clinical prediction instrument for HPV vaccination in people aged 15-49.

A convenience sample of 328 participants was selected and was analyzed in a cross-sectional manner. The data were collected using a structured interviewer-administered questionnaire to collect data regarding sociodemographic information, knowledge about cervical cancer and HPV, information access, and vaccination status. Binary logistic regression was used to identify the independent predictors of HPV vaccine uptake. The classification accuracy, sensitivity, specificity, Positive predictive value (PPV), negative predictive value (NPV), receiver operating characteristic (ROC) curve analysis and precision were used to evaluate model performance. The final regression model was then used to develop a clinical prediction model.

The logistic regression model was statistically significant, with a $\chi^2(df=8, N = 328) = 29.30$, $p < .001$, indicating that the predictors as a group predicted HPV vaccine uptake. Significant predictors included awareness of cervical cancer symptoms (OR = 2.93, 95% CI [1.26, 6.83], p = .012), awareness of the HPV vaccine (OR = 5.18, 95% CI [1.29, 20.85], p = .021), and awareness of cervical cancer risk factors (OR = 0.32, 95% CI [0.14, 0.73], p = .007). The overall model classification accuracy of 60.4%, sensitivity of 75.7%, specificity of 58.4%, positive predictive value (PPV) of 18.8%, and negative predictive value (NPV) of 95.0%, and the area under the receiver operating characteristic curve (AUC) of 0.751 means that the model has an acceptable discriminatory power.

Awareness-related factors were the strongest predictors of taking the HPV vaccine. The final logistic regression model had good predictive ability and is a foundation for creating a clinical prediction tool. Increasing awareness and educational initiatives around HPV could increase vaccine uptake and help with cervical cancer prevention.

Keywords: Human Papillomavirus (HPV) vaccine uptake, logistic regression, prediction model, clinical prediction tool, cervical cancer.

25. PHYSICAL ACTIVITY LEVELS AND NUTRITIONAL STATUS AMONG UNIVERSITY STUDENTS IN KENYA: EVIDENCE FROM KABARAK UNIVERSITY

Faith Cherotich

Kabarak University, School of Medicine and Health Sciences, Department of Nutrition and Dietetics

Email: f.cherotich@kabarak.ac.ke

Abstract

Physical inactivity is a major risk factor for non-communicable diseases and may contribute to poor nutritional outcomes among university students. In Kenya, evidence on the relationship between physical activity and nutritional status among private university students remains limited.

This study assessed physical activity levels and examined their association with nutritional status among young adults at Kabarak University in Nakuru County, Kenya. A cross-sectional study was conducted among 240 undergraduate students aged 19-25 years at Kabarak University.

Participants were selected using proportionate cluster and systematic random sampling. Physical activity was measured using the International Physical Activity Questionnaire-Short Form (IPAQ-SF), and nutritional status was classified using body mass index (BMI) based on WHO criteria. Data were analysed in SPSS version 27 using descriptive statistics and Chi-square tests, with statistical significance set at $p \leq 0.05$.

Overall, 35.8% of students were physically inactive, 44.6% were moderately active, and 19.6% had high physical activity levels. Nutritional status assessment showed that 54.2% had normal BMI, 23.7% were overweight, 8.3% were obese, and 13.8% were underweight. Physical activity level was significantly associated with nutritional status ($\chi^2=22.34$, $p=0.001$).

Students with higher physical activity were more likely to have normal BMI, while physically inactive students had higher proportions of overweight/obesity and underweight. The study concluded that physical inactivity was common and significantly associated with nutritional status among university students. The study further recommended Campus health promotion interventions should prioritize structured physical activity opportunities, integration of active lifestyles into student routines, and targeted support for students at risk of undernutrition or overweight/obesity.

Keywords: *Physical activity, nutritional status, body mass index, university students, Kenya.*

26. DETERMINANTS OF ELECTRONIC MEDICAL RECORD IMPLEMENTATION FOR DIABETES MANAGEMENT IN KENYA: A CROSS-SECTIONAL STUDY OF INFRASTRUCTURE, DATA SECURITY, AND ORGANIZATION READINESS

Kingi Samuel[1*], Alfred Owino Odongo[2] and Linet Angwa[3]

[1]Department of Community Health & Epidemiology & Biostatistics, School of Public Health, Mount Kenya University, Nairobi, Kenya, [2]Department of Community Health & Epidemiology & Biostatistics, School of Public Health, Mount Kenya University, Nairobi, Kenya, [3]School of Pharmacy and Health Sciences, United States International University- Africa, Nairobi, Kenya.

Email: kingisamuel1@gmail.com

Abstract

Electronic Medical Records (EMRs) are essential tools for optimizing diabetes management by enhancing continuity of care, longitudinal patient monitoring, and clinical decision-making. Despite growing policy support for digital health systems in Kenya, EMR implementation remains inconsistent due to infrastructural, financial, and organizational challenges.

This study aimed to evaluate the systemic barriers and facilitators influencing EMR adoption to inform digital health integration in resource-limited settings.

An institutional cross-sectional study was conducted using a stratified sampling approach of 119 healthcare providers involved in diabetes care at Nakuru County Referral and Teaching Hospital, Kenya. Data were collected using structured questionnaires. Descriptive statistics summarized the findings, while Pearson chi-square tests evaluated the significance of response distributions across a 5-point Likert scale. Statistical significance was set at $p < .05$.

The overriding institutional pattern was participant uncertainty regarding organizational readiness, with over half of the respondents expressing neutral perceptions across all primary barrier variables, including cost

(57.1%), unreliable internet connectivity (57.1%), staff resistance (58.8%), and data security (57.1%). Among the minority expressing definitive opinions, implementation cost (38.7%) and data security concerns (32.8%) emerged as prominent perceived barriers. Of the 68 active EMR users, 80.9% rated systems as user-friendly, though 67.6% reported inadequate technical support. Strong national policy support was recognized by 68.1% of all respondents. Chi-square analysis demonstrated statistically significant deviations from equal response proportions across all evaluated facilitators and barriers ($p \leq .030$), heavily driven by the concentration of neutral responses.

EMR implementation is determined by an interconnected matrix of technological, organizational, and environmental factors. Addressing systemic infrastructure gaps, enhancing technical support networks, and establishing robust local data security frameworks are critical to transition from institutional neutrality to sustainable digital health optimization.

Keywords: *Electronic Medical Records, Diabetes Management, Data Security, Organizational Readiness, Digital Health, Kenya.*

27. USE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN OPTIMIZATION OF FORMULATION OF DRUG DELIVERY SYSTEMS

Yvonne M. Sunguti, Vincent O. Nyandoro

Department of Pharmaceutical Chemistry and Pharmaceutics, School of Pharmacy, Kabarak University,

ysunguti@kabarak.ac.ke

Abstract

Traditional drug delivery system (DDS) formulation relies on resource-intensive trial-and-error methods that struggle to map complex, non-linear relationships between formulation variables and product performance. Artificial Intelligence (AI) and Machine Learning (ML) present a paradigm shift to data-driven, predictive pharmaceutical development.

This review evaluates the application of AI and ML algorithms in predicting and optimizing the composition, manufacturing parameters, and performance of advanced drug delivery systems.

A comprehensive literature search was executed across PubMed, ScienceDirect, and IEEE Xplore for peer-reviewed articles published between 2018 and 2025. Search criteria focused on the intersection of machine learning techniques and drug delivery platforms.

The literature demonstrates that AI/ML models excel at predicting critical quality attributes (CQAs) such as drug loading, encapsulation efficiency, and cumulative release kinetics based on initial critical material attributes (CMAs). Algorithms like Deep Neural Networks (DNNs) and Genetic Algorithms (GAs) are increasingly deployed to minimize experimental iterations in nanoparticle synthesis and 3D-printed printlet design. Despite these capabilities, widespread integration faces challenges, including the black box nature of complex models complicating regulatory approval, a lack of standardized public datasets, and low model transferability across different formulations.

AI and ML are transforming DDS formulation from an empirical craft into a precise predictive science. Overcoming current bottlenecks requires adopting Explainable AI (XAI) to satisfy regulatory transparency and implementing open-science data sharing to accelerate the translation of optimized, patient-specific therapeutic systems.

Keywords: *Artificial Intelligence, Machine Learning, Formulation Optimization, Explainable AI.*

28. ASSESSING CARDIOVASCULAR RISK USING THE FRAMINGHAM RISK SCORE AMONG PEOPLE LIVING WITH HIV ON HAART AT MACHAKOS COUNTY REFERRAL HOSPITAL, KENYA

Sarah Malinda Syengo[1*], Scholastica Gatwiri Mathenge[2], Nelson Chengo Menza[2]

[1]Department of Medical Laboratory Sciences, Coptic Hospital, Nairobi, Kenya. [2]Department of Medical Laboratory Sciences, Kenyatta University, Nairobi, Kenya

Email: syengo.sarah@students.ku.ac.ke

Abstract

The widespread availability of HAART has significantly extended the survival of people living with HIV. With this increased life expectancy, NCDs such as cardiovascular disease have emerged as major health concerns. Both HIV infection and long-term exposure to antiretroviral therapy contribute to metabolic changes and early vascular aging.

This study assessed cardiovascular risk using the Framingham Risk Score (FRS) among people living with HIV (PLHIV) receiving HAART at Machakos County Referral Hospital, Kenya, and examined demographic and clinical factors associated with elevated risk.

A cross-sectional study was conducted among 406 adult PLHIV who had been on HAART ≤ 3 months. Data was collected through structured questionnaires, interviews, health records review and laboratory analyses. The 10-year CVD risk was estimated using the Adult Treatment Panel III (ATP III) Framingham algorithm, categorizing patients as low, moderate, moderately high, or high risk.

Most participants (71.2%) were classified as low cardiovascular risk; 18.5% as moderate risk, 9.8% as moderately high cardiovascular risk and 0.5% as high cardiovascular risk individuals. Older age {25–40} years (AOR = 37.11, 95% CI: 10.12–140.16, $p < 0.001$), 41–59 years (AOR = 31.01, 95% CI: 9.04–140.16, $p < 0.001$), and ≥60 years (AOR = 9.75, 95% CI: 7.14–31.74, $p < 0.001$)}, male gender (AOR = 3.44, 95% CI: 1.67–8.09, $p = 0.001$), elevated HDL (AOR = 8.23, 95% CI: 3.92–17.26, $p <0.001$), smoking (AOR = 6.80, 95% CI: 1.53 31.25, $p < 0.001$), shorter duration on antiretrovirals (<5 years) (AOR = 5.17, 95% CI: 1.94–13.79, $p = 0.001$), and systolic BP ≥140 mmHg (AOR = 30.16, 95% CI: 12.43–73.18, $p < 0.001$) were significantly associated with higher CVD risk.

Although most PLHIV on HAART at Machakos County Referral Hospital had low cardiovascular risk, older age, male gender, hypertension, smoking, short duration on antiretrovirals, and dyslipidemia were found to be key contributors to elevated FRS. These findings underscore the need to integrate routine cardiovascular risk screening and lifestyle modification interventions into HIV care programs in Kenya.

Keywords: *HIV, HAART, Framingham Risk Score, cardiovascular risk, Kenya, non-communicable diseases.*

29. UTILITY OF ROUTINE RED CELL INDICES (MCV AND RDW) IN SCREENING AND DIFFERENTIATING HAEMOGLOBINOPATHIES IN WESTERN KENYA

Bernard Mutua et al.

Department of Medical Laboratory Sciences, School of Public Health Biomedical Sciences and Technology, Masinde Muliro University of Science and Technology, Kakamega, Kenya

Email: bensmutua@yahoo.com

Abstract

Haemoglobinopathies remain underdiagnosed in many resource-limited settings in sub-Saharan Africa due to restricted access to Gold standard techniques such as HPLC and haemoglobin electrophoresis. Consequently, routine complete blood count (CBC) parameters are frequently used as surrogate screening tools. However,

the diagnostic performance of mean corpuscular volume (MCV) and red cell distribution width (RDW) remains inadequately validated in African populations. This study evaluated the utility of these routinely available indices in supporting early haemoglobinopathy screening and strengthening equitable laboratory diagnosis in Western Kenya.

This study aimed to determine the diagnostic efficacy of MCV and RDW discriminating haemoglobinopathy and haemoglobinopathy-free cases in Kenya.

A retrospective cross-sectional study involving 773 participants was conducted using laboratory records from Aga Khan Hospital, Kisumu, and affiliated satellite laboratories. Haemoglobin phenotypes were confirmed using HPLC. Receiver operating characteristic (ROC) curve analysis was used to assess the discriminatory performance of MCV, while RDW patterns were compared across haemoglobinopathy phenotypes and HbAA controls.

MCV demonstrated poor overall discriminatory performance for haemoglobinopathies, with an area under the curve (AUC) of 0.528 and an optimal cut-off of 75.3 fL, yielding 50.4% sensitivity and 42.8% specificity. Sickle cell disease phenotypes were predominantly normocytic when interpreted using locally derived Kenyan reference ranges, while some carrier states showed overlapping microcytic patterns. In contrast, RDW demonstrated significant variation across haemoglobinopathy phenotypes and showed greater utility as a surrogate marker of anisocytosis and abnormal erythrocyte morphology. Combined interpretation of RDW and MCV improved phenotypic characterization compared with isolated index interpretation.

Conclusion: Routine CBC-derived indices may provide useful preliminary screening information for haemoglobinopathies in low-resource settings; however, MCV alone has limited diagnostic accuracy. Integration of RDW with locally validated MCV reference ranges may enhance laboratory triaging and phenotypic suspicion, thereby supporting more resilient and equitable diagnostic pathways where definitive testing remains inaccessible.

Keywords: *Haemoglobinopathies, MCV, RDW, ROC analysis, Sickle Cell Disease, β-thalassemia, Western Kenya.*

30. SAFETY AND EFFECTIVENESS OF TOPICAL ANAESTHESIA FOR PHACOEMULSIFICATION CATARACT SURGERY: A SYSTEMATIC REVIEW

Odhiambo-Ohito, George S., Mabonga, Cyprian
[1]Department of Clinical Medicine, School of Health Sciences, Kaimosi Friend's University, Vihiga,
Email: cmabonga@kafu.ac.ke

Abstract

Cataract is the leading cause of blindness worldwide, accounting for a significant proportion of avoidable visual impairment, especially in low- and middle-income countries. Selection of an anaesthetic technique is central to ensuring patient comfort, surgical efficiency, and safety. Topical anaesthesia avoids the risks associated with needle-based regional blocks through parabulbar routes and has become widely adopted, often with supplemental intracameral lignocaine.

The aim of this study is to conduct a systematic review and document and evaluate the evidence of safety and efficiency of topical anaesthesia, with or without intracameral lignocaine, for phacoemulsification cataract surgery.

This was a systematic review conducted in accordance with the PRISMA2020 guidelines. Electronic search engines - Google Scholar and PubMed central were used to identify studies that evaluated topical anaesthesia in adult patients undergoing phacoemulsification. Randomized controlled trials, prospective comparative

studies, and observational studies were eligible. Data extracted included study design, anaesthetic regimen, intraoperative pain scores, need for supplemental anaesthesia, complications, surgical time, and patient satisfaction. Eighteen studies met the inclusion criteria and were included for analysis.

Across the 18 studies included in the review, topical anaesthesia provided adequate analgesia for most patients undergoing uncomplicated phacoemulsification. Intraoperative pain scores were generally low to moderate and were consistently lower when intracameral lignocaine was added. Surgical completion rates were high, with rare conversion to regional anaesthesia. No needle-related complications were reported, and adverse events were limited to transient ocular discomfort and occasional mild corneal epithelial toxicity. Surgical duration and early postoperative recovery were favorable, and overall patient satisfaction was high.

Topical anaesthesia, particularly when supplemented with intracameral lignocaine when indicated, is a safe, efficient, and well-tolerated technique for phacoemulsification cataract surgery. It should be considered a first-line anaesthetic approach for appropriately selected patients undergoing uncomplicated phacoemulsification surgery.

Keywords: cataract surgery; phacoemulsification; topical anaesthesia; intracameral lignocaine; patient satisfaction; safety; efficiency; systematic review.

31. AMELIORATIVE EFFECTS OF PHENOBARBITAL ON EARLY LIFE STRESS INDUCED HYPERACTIVITY OF THE HYPOTHALAMUS - PITUITARY - ADRENAL AXIS IN WISTAR RATS

Bett Shadrack[1*], Kweri Joseph[2], Kamau David[2] Masika Jacob[3]

[1] School of Medicine and Health Sciences, Kabarak University

[2] School of Medicine, Jomo Kenyatta University of Agriculture and Technology

[3] School of Health sciences, Kenyatta University

*Corresponding author: Bett Shadrack; Email: kshadrack@kabarak.ke

Abstract

Early life stress (ELS) disrupts neurodevelopment and stress regulation, leading to persistent hypothalamic-pituitary-adrenal (HPA) axis hyperactivity and increased vulnerability to neuropsychiatric and metabolic disorders. Phenobarbital (PB), a GABAergic modulator, may influence HPA axis function, but its role in mitigating ELS-induced dysregulation remains unclear.

This study investigates PB's effects on HPA axis activity in ELS-exposed Wistar rats by assessing locomotor behavior, adrenocorticotropic hormone (ACTH), and corticosterone levels.

Rats were divided into five groups, including ELS and PB-treated groups receiving low (10 mg/kg), medium (30 mg/kg), or high (50 mg/kg) doses for 90 days. HPA activity was assessed using the open field test and hormonal analysis of ACTH and corticosterone levels. Data were analyzed using two-way ANOVA, with significance set at $p < 0.05$. Ethical approval was obtained from the Kabarak University Research and Ethics Committee (REF – KUREC 060424).

Open field test results showed reduced locomotor activity in the ELS group, with PB treatment improving movement in a dose-dependent manner. ACTH and corticosterone levels were significantly elevated in the ELS group but decreased with PB administration, with high-dose PB (HDPB) showing the most improvement. Statistical analyses confirmed significant group and time effects on hormone levels.

These findings suggest PB may help normalize HPA axis dysfunction in stress-related conditions. ELS led to increased ACTH and corticosterone levels, along with heightened locomotor activity. PB treatment reduced these effects in a dose-dependent manner, with high-dose PB (HDPB) showing the greatest improvement.

Findings suggest PB enhances GABAergic inhibition to restore HPA axis balance. Further research is needed to assess long-term effects and underlying molecular mechanisms.

Keywords: *Early life stress, Hypothalamic-pituitary-adrenal, Phenobarbital*

32. HERBAL MANUFACTURING: LESSON FROM TRADITIONAL CHINESE MEDICINE AND OPPORTUNITIES FOR ADOPTION IN KENYA

Ian Ontiri[1*], Vincent O. Nyandoro[1]

[1]Department of Pharmaceutical Chemistry and Pharmaceutics, School of Pharmacy, Kabarak University, Nakuru, Kenya.

*Corresponding author: Ian Ontiri; Email: ontiri@kabarak.ac.ke

Abstract

An estimated 80% of Kenyans use herbal or traditional medicine, yet the sector remains largely informal, poorly standardized and weakly integrated into the formal health system. Over the same period, China has transformed its centuries-old materia medica into a modern, standardized and globally traded manufacturing industry worth tens of billions of dollars annually

This paper reviews how Traditional Chinese Medicine (TCM) achieved this transformation through sustained state policy, dedicated institutions, enforceable quality standards, whole-value-chain quality control, and the deliberate marriage of indigenous knowledge with modern science (exemplified by the Nobel Prize–winning discovery of artemisinin) and distils the lessons most relevant to Kenya

Traditional Chinese Medicine (TCM) achieved this transformation through sustained state policy, dedicated institutions, enforceable quality standards, whole-value-chain quality control, and the deliberate marriage of indigenous knowledge with modern science (exemplified by the Nobel Prize–winning discovery of artemisinin) and distils the lessons most relevant to Kenya

The paper concludes with a phased set of recommendations for building a credible, evidence-based herbal-manufacturing industry in Kenya.

Keywords: *Herbal manufacturing, Traditional Chinese medicine, Traditional medicine, Standardization, Quality control, Good Manufacturing Practice, Phytomedicine, Medicinal plants, Kenya*

33. HYPOGLYCEMIC AND HYPOLIPIDEMIC EFFECTS OF TITHONIA DIVERSIFOLIA AQUEOUS ROOT EXTRACT IN WESTERN DIET-FED WISTAR ALBINO RATS

Damaris Okuna[1*]

[1]Moi University, Kenya

*Corresponding author: Damaris Okuna; Email: dokuna@kabarak.ac.ke

Abstract

Hyperglycemia and dyslipidemia are major contributors to metabolic and cardiovascular diseases, often managed with synthetic drugs that may have adverse effects. While Tithonia diversifolia has been traditionally used to manage these conditions, its efficacy and potential as an alternative therapy remain insufficiently explored.

This study investigated the hypoglycemic and hypolipidemic effects of Tithonia diversifolia aqueous root extract in Wistar albino rats fed a Western diet, comparing its efficacy to standard drugs.

Thirty-five male Wistar albino rats (180–200g) were divided into seven groups (n=5). G1 received a normal diet, while G2 was fed a Western diet throughout. G3 and G4 were treated with atorvastatin (10 mg/kg) and glibenclamide (0.5 mg/kg), respectively, after 35 days on a Western diet. G5 and G6 received Tithonia diversifolia extract at 200 mg/kg and 400 mg/kg for seven days. G7 was reverted to a normal diet after 28 days on a Western diet. Fasting blood glucose was measured weekly, and lipid profiles were analysed at the study's conclusion.

Western diet-fed groups showed a significant increase in fasting blood glucose (p=0.000). Extract-treated groups (G5, G6) exhibited a significant reduction in fasting glucose and cholesterol (p=0.000), with G6 (1.2 mmol/L) achieving results comparable to atorvastatin (2.0 mmol/L). Triglycerides significantly decreased (p=0.036) in G5, G6, and G3, while HDL-C levels remained unchanged.

Tithonia diversifolia extract demonstrated hypoglycemic and hypolipidemic effects similar to standard drugs. Further studies should focus on isolating its bioactive compounds, optimising dosage, and evaluating long-term safety for therapeutic applications.

Keywords: *Hyperglycemia, Dyslipidemia, Tithonia diversifolia, Aqueous root extract, Wistar albino rats*

34. DEVELOPING ADVANCED PRACTICE NURSING IN KENYA: A PROPOSED MODEL FOR BOARD-CERTIFIED NURSE PRACTITIONER PROGRAMS

Authors: *Michele Chronister[1]* and Bryan Weinberg-Wonsidler[1]*

[1]Wehrheim School of Nursing, Millersville University

*Corresponding author: Michelle Chronister; Email: Michele.Chronister@millersville.edu

Abstract

As Kenya investigates the possibility of establishing a formal Nurse Practitioner (NP) role, understanding the epistemological foundations that underpin U.S. NP education can serve as one reference point to align with Kenya's healthcare realities, cultural values, and strengths.

This presentation integrates the evolution of NP education in the United States with Carper's Four Fundamental Patterns of Knowing—empirical, aesthetic, personal, and ethical knowledge—as foundational pillars that shape high-quality clinical preparation and advanced nursing judgment. According to Carper, nursing knowledge is formed through distinct yet interdependent patterns that guide how nurses interpret evidence, understand human experience, build therapeutic relationships, and make moral decisions in practice.

A brief introduction to how U.S. NP education developed from a biomedical, empirically centered model to a comprehensive graduate-level system requiring mastery of advanced pathophysiology, pharmacology, health assessment, and evidence-based practice. This empirical foundation aligns with Carper's description of nursing science as the systematic, verifiable pursuit of knowledge aimed at describing, explaining, and predicting health phenomena. We then explore the integration of aesthetic knowing—clinical creativity, perceptive insight, and individualized patient care—as essential to advanced practice roles, enabling NPs to move beyond technical skill toward intuitive, context-sensitive decision-making.

Personal knowing is examined as the core of therapeutic presence and patient-centered care, reflecting Carper's emphasis on authentic interpersonal relationships that promote well-being. Ethical knowing is highlighted as indispensable in NP practice, where complex clinical, cultural, and societal dilemmas require moral clarity and responsible, patient-focused judgment.

By exploring how these epistemological foundations relate to approaches used in U.S. NP curricula, regulatory frameworks, and clinical competencies, we offer ideas Kenya may adapt in ways that fit its priorities and context. It highlights how drawing on multiple ways of knowing can support advanced practice nursing and potentially contribute to improved access, quality, and equity.

Keywords: *Advanced Practice Nursing, Different Ways of Knowing, Healthcare Workforce Development, Primary Care Access*

35. STRENGTHENING FAMILIES: HOW NURSE-FAMILY PARTNERSHIP IMPROVES MATERNAL AND CHILD OUTCOMES

Susan Brackbill[1*]

[1]Wehrheim School of Nursing, Millersville University

*Corresponding author: Susan Brackbill; Email: susan.brackbill@millersville.edu

Abstract

The first 1000 days of life (conception to two years of age) form the foundation for a child's lifelong trajectory, influencing both morbidity and mortality. Many factors influence birth and child developmental outcomes, including maternal health, access to healthcare, food and shelter, and the presence of violence and civil unrest, among others.

This session will discuss Nurse-Family Partnership (NFP), and how it can be used to come alongside under-resourced pregnant people early in pregnancy through the child's second birthday with evidence-based registered nurse home visiting. Home visiting nurses enhance maternal health through comprehensive nursing assessments, education, and connections to community resources tailored to each family's needs. Performance measures encompass pregnancy outcomes, child growth and development outcomes, and life course development toward economic self-sufficiency. Integrated into visits, regular mental health and intimate partner violence screenings are conducted, recognizing that untreated maternal depression has a direct impact on infant growth and development.

Multiple randomized controlled trials were conducted in 1977, 1987, and 1994, measuring short- and long-term outcomes, seeing reductions in child abuse, injuries, language delays at 21 months, unplanned pregnancies, to name a few.

Sharing the NFP model with global partners provides golden opportunities to collaborate and learn from one another as we intersect with many cultures. The capacity to foster open dialogue about meaningful, therapeutic parent-child interactions helps bridge the gaps in understanding bonding and supporting resilience in children.

Nurse-Family Partnership is a valuable tool that promotes healthy pregnancies, optimal child growth and development, and life-course development, underpinned by Human Ecology, Attachment Theory, and Self-Efficacy Theory.

Keywords: *Nurse-Family Partnership, first 1000 days*

36. EXPERIENCES OF FAMILIES OF PATIENTS ADMITTED TO THE INTENSIVE CARE UNIT AT AIC KIJABE HOSPITAL-KENYA

Bethel Owuor Otieno[1*]

[1]Kabarak University, Nakuru, Kenya

*Corresponding author: Bethel Owuor Otieno; Email: botieno@kabarak.ac.ke

Abstract

Intensive care unit (ICU) admissions and bed capacity are increasing due to an increase in the burden of critical illness and improved critical care infrastructure and more resource allocation. ICU admission is often associated with life threatening conditions occurring suddenly without warning. Equipment used in managing and monitoring patients in ICU are often sophisticated with alarm and tubes which may be intimidating both to patient and family members. There is no guideline in Kenya or approach recommended specifically on supporting families of patients admitted in ICU.

This study, therefore, explored lived experiences of families of patients admitted in ICU in a faith-based Kenya Hospital.

The study adopted Qualitative- phenomenological study design. Participants were selected through none probability-purposive sampling techniques from family members of patients admitted at tertiary hospital intensive care unit. An in-depth structured interview was used to collect data among 12 participants. Inductive thematic analysis was used to analyze data.

Four main themes emerged:(1) Emotional and psychological turmoil, which was characterized by widespread fear, anxiety, and a community perception of the ICU as being associated with death;(2) Communication and information Gaps, which highlighted inaccessible clinicians, inconsistent updates, and cultural insensitivity, especially with foreign doctors;(3) socioeconomic burden, which included catastrophic out-of-pocket expenses, patient detention due to unpaid bills, and disruption of family livelihoods by logistical pressures;(4) coping strategies in which families rely mostly on internal family role adaptability, spiritual faith (prayer), and initially robust but frequently deteriorating social networks.

The ICU family experience in Kenya is unique, characterized by financial toxicity, cross cultural communication hurdles, systemic delays and high mortality, and a fatalism reinforced by these factors. One of the main, culturally established resilience mechanism is faith. The results highlight the important need for family-centered, contextually applicable recommendations that address financial protection regulations, culturally sensitive communication, and psychosocial assistance within Kenya's critical care system.

Keywords: *Intensive care unit, Phenomenological study design, Family experiences, Kenya*

37. BUILDING A BARRIER-FREE SYSTEM: DIGITALIZATION OF THE MEDICAL SYSTEM ELIMINATES PAPERWORK, MISDIAGNOSIS, AND LANGUAGE GAPS

Vivian Nyamari[1]*

[1]Strathmore University, Nairobi, Kenya

*Corresponding author: Vivian Nyamari; Email: vnyamari@strathmore.edu

Abstract

Globally, large language models (LLMs) and automatic speech recognition (ASR) with translation are classes of AI technologies with unique models in medical delivery. The models improve diagnosis, organize records, help decision-making, and improve medical delivery. Structural inequities and language barriers lead to paperwork, misdiagnosis, and harm to patients due to over 50 spoken languages in Kenya.

The project aims to use AI to make medical care faster and patient-focused by combining ASR with translation and LLMs to enable real-time translation of medical conversations between English and local Kenyan languages.

The Design Science Research methodology will be embraced, and a quasi-experimental pilot study will be completed in stages. In stage I, 500 hours of medical speech in Kiswahili, English, and Kalenjin from Kericho health facilities will be collected to train an ASR model, fine-tune in medical settings, and code-switching. A parallel corpus of over 1,000 medical-patient dialogues with structured medical notes will be created and extended using manufactured data generation. An open-source LLM (LLaMA-3, Mistral, or Qwen) will be fine-tuned using Low-Rank Adaptation (LoRA) to transform vernacular dialogues into structured English medical notes while preserving medical accuracy. In stage II, a non-randomized controlled trial will be done, with a total of 500 adult patients and 30 medical professionals participating. Participants are assigned to either the control or the intervention (ASR-LLM-assisted) group. Period of documentation (through digital period-motion logs),

medical note quality (senior representatives using a validated scorecard to assess), and patient communication experience (through exit surveys summarized into local languages) will be used to measure the outcome. Statistical analyses include t-tests, chi-square tests, and ANOVA to analyze outcomes of the involved groups, with stratified subgroup analyses by language and demographic characteristics.

The ASR-LLM model expects to save time, improve records, and satisfy patients. It will reduce paperwork, prevent misdiagnosis, and put patients first.

Keywords: *Large language models, Automatic speech recognition, Diagnosis, Medical systems*

38. ENHANCING ACCESS TO MENTAL HEALTH SUPPORT THROUGH AN ANONYMOUS DIGITAL COUNSELING PLATFORM A KENYAN PERSPECTIVE

Jakes Keraso Mogambi[1*]

[1]School of Medicine and Health Sciences, Kabarak University, Kenya

*Corresponding author: Jakes Keraso Mogambi; Email: jkeraso@kabarak.ac.ke

Abstract

Mental health disorders, including depression, anxiety, and trauma-related conditions, represent a growing global public health challenge, affecting more than 970 million people worldwide. Despite increasing awareness of mental health concerns, significant barriers continue to limit access to professional support. These barriers include stigma, concerns about privacy and confidentiality, financial constraints, and inadequate mental health infrastructure. In Kenya, where fewer than 500 psychiatrists serve a population of over 50 million people, access to timely and affordable mental health services remains particularly limited.

This paper presents the design and development of an anonymous online counseling platform aimed at addressing these challenges through accessible, secure, and user-centered digital mental health support.

The platform leverages end-to-end encryption and WebRTC communication technologies to facilitate confidential real-time interactions between users, licensed mental health professionals, and trained peer supporters without requiring personal identification or data retention. By eliminating registration requirements and service fees, the platform seeks to reduce psychological, administrative, and financial barriers that often discourage help-seeking behavior. The proposed model is grounded in principles of digital inclusion, confidentiality, and cultural responsiveness, making it suitable for populations affected by stigma, social vulnerability, or limited access to conventional mental health services. The platform is designed for scalability and adaptability within low-resource settings, with an initial implementation focus on Kenya.

The initiative contributes to ongoing efforts to expand equitable access to mental health care and aligns with the World Health Organization's recommendations on digital health interventions and the United Nations Sustainable Development Goals, particularly those related to health and well-being. By promoting anonymous and secure access to counseling services, the platform has the potential to enhance early intervention, encourage help-seeking behaviors, and reduce the burden of untreated mental health conditions among underserved populations.

Keywords: *Mental health, digital counseling, online therapy, anonymity, mental health accessibility, Kenya, digital health innovation.*

39. THE CLIMATE CHANGE-HEALTH INTERFACE: INNOVATIONS, ADAPTATIONS AND EQUITY FOR RESILIENT CLIMATE-READY HEALTH SYSTEMS

Jeremiah K.N. Mbindyo[1*]

[1]Department of Chemistry, Millersville University

*Corresponding author: Jeremiah Mbindyo; Email: jeremiah.mbindyo@millersville.edu

Abstract

Climate change is creating significant challenges for health systems, complicating progress toward universal health coverage. Weather patterns are becoming unpredictable, with increasing frequency and intensity of heatwaves, droughts, cold spells and floods. Such changes contribute to rising rates of climate-sensitive and vector-borne diseases. They also disrupt agriculture and food systems, strain infrastructure and affect functioning of community daily life.

Healthcare professionals are increasingly expected to promote holistic wellbeing. Their role extends beyond treating disease to include supporting population health. However, many effects of climate change occur outside the traditional realms of clinical care. This paper explores ways to strengthen health system resiliency and to support universal health coverage in this context.

Addressing climate-related health challenges requires multisectoral collaboration. This includes government agencies, health systems, environmental scientists, and community leaders. Effective responses should prioritize innovation, adaptation, and equity. The study examines strategies to improve equitable health-system planning to protect vulnerable populations from climate-related health impacts.

The intersection of climate change and health will be discussed. Strategies used to enhance resiliency in universal health coverage through innovation, equity, and collaboration across multiple sectors will be shared.

Building resilient, climateready health systems is vital to protect public health amidst these ongoing environmental shifts.

Keywords: *Climate Change, Collaboration practices, Health system resilience, Equity*

40. CLIMATE VARIABILITY, AGROCHEMICAL USE, AND FOOD SAFETY: AN ANALYSIS OF CLIMATE-INDUCED CHANGES IN PESTICIDE RESIDUES IN KENYAN FOOD SYSTEMS

Moses Wangwa[1*]

[1]Daystar University, Nairobi, Kenya

*Corresponding author: Moses Wangwa; Email: moseswangwa231372@daystar.ac.ke

Abstract

Climate variability has increasingly altered agricultural production systems in Kenya, with significant implications for food safety and public health. Unpredictable rainfall patterns, prolonged dry spells, and shifting growing seasons have compelled smallholder farmers to adapt their farming practices, often by intensifying the use of agrochemicals to accelerate crop growth and control emerging pest pressures. While these inputs support short-term productivity, they have raised growing concerns regarding pesticide residues in commonly consumed vegetables.

This study examines the relationship between climate variability, agrochemical use, and food safety by analysing climate-induced changes in pesticide residues within Kenyan food systems, with a specific focus on Meru County and the Gambela area.

Documented evidence from previous residue monitoring studies indicates the presence of multiple pesticide compounds including imidacloprid, metalaxyl, carbendazim, azoxystrobin, chlorpyrifos, diazinon, and acetamiprid in everyday vegetables such as kales, tomatoes, and French beans. Some residue levels have been found to exceed internationally recommended maximum residue limits, particularly in kales harvested during dry seasons, when pest pressure and chemical application rates tend to increase. These residues pose a latent public health risk, as consumers are often unaware of the cumulative chemical exposure resulting from regular vegetable consumption.

In a context already burdened by rising non-communicable diseases, foodborne health risks, and an overstretched health system, continued exposure to pesticide residues may exacerbate existing health challenges. The study underscores the need for stronger food safety surveillance, climate-sensitive agricultural practices, and enhanced public health interventions, including the expansion of Community Health Promoters. Addressing pesticide residue risks is critical to safeguarding nutritional security and protecting population health under a rapid changing climate regime.

Keywords: *Climate variability, Agricultural production systems, Food safety, Agrochemical use, Food safety surveillance, Public health interventions*

41. TRADITIONAL KALENJIN FERMENTED CEREAL FOODS AS RESERVOIRS OF ANTIMICROBIAL-PRODUCING LACTIC ACID BACTERIA: A ONE HEALTH FRAMEWORK FOR AMR PREPAREDNESS AND HEALTH SYSTEM RESILIENCE IN KENYA

Charity Lyavuli Akweya[1,2*]

[1]Department of Biological Sciences, School of Medicine and Health Sciences, Kabarak University, Kenya,
[2]Department of Medical Microbiology and Immunology, University of Nairobi, Kenya

*Corresponding author: Charity Akweya; Email: lyavulicharity@gmail.com

Abstract

Antimicrobial resistance (AMR) threatens global healthcare, straining health system resilience and undermining progress toward Universal Health Coverage, especially in developing nations. With the modern drug pipeline stalling, exploring indigenous knowledge and natural food systems offers a vital alternative pathway for discovering novel antimicrobials. Within Kenya's Rift Valley; including Rongai, Mogotio, and Eldama Ravine, traditional fermented cereal foods made from maize, millet, and sorghum have been used for generations to support nutrition and postpartum recovery. These foods represent an untapped biological reservoir of helpful microorganisms and bioactive metabolites.

This mini-review synthesizes current data on antimicrobial-producing lactic acid bacteria found in these local fermented cereals.

It maps their functional role out within a translational framework that connects traditional fermentation practices, microbial profiling, and biotechnology. Furthermore, it outlines how emerging molecular tools like metagenomics and whole-genome sequencing can speed up the discovery of these native bioactive compounds.

Evidence shows that lactic acid bacteria from African fermented foods produce organic acids, bacteriocins, and postbiotic metabolites. These natural compounds effectively inhibit dangerous clinical pathogens, serving as viable, locally sourced alternatives or additions to standard antimicrobial treatments.

Traditional Kalenjin fermented cereals are highly promising resources for drug discovery. Scaling up research on their microbial diversity directly aligns with the conference theme of building resilient health systems through innovation, equity, and multisectoral action. By bridging indigenous practices with modern biotechnology, this One Health approach preserves cultural knowledge while building sustainable, locally-driven solutions to combat AMR in Kenya.

Keywords: *Antimicrobial resistance, Lactic acid bacteria, Traditional fermented foods, One Health, Health system resilience.*

42. ASSESSMENT OF COMPETENCY AND BIOSAFETY IN MORTUARY SCIENCE PRACTICE AMONG PRACTICING MORTICIANS IN WESTERN KENYA

Patrick Myles Wangira[1]*, Harun Chemjor[1], David Kigaya Kaniaru[1]

[1]Department of Health Profession Education, Masinde Muliro University of Science and Technology, Kakamega, Kenya

*Corresponding author: Patrick Wangira; Email: pmyles@mmust.ac.ke

Abstract

Human bodies are vital resources in medical education, mortuary practice, and biomedical research. Despite their indispensable role, challenges remain regarding competency and biosafety among the morticians who handle them.

This study assessed competency and biosafety skills among practicing morticians in Western Kenya, focusing on the level of biosafety skills, competencies required, and factors influencing both.

A cross-sectional design guided by the CIPP evaluation model was employed, using both qualitative and quantitative approaches. Data were collected from 89 morticians using semi-structured questionnaires and analyzed with SPSS version 28.

Findings revealed that while training on personal protective equipment was common (97.8%), training in handling sharps (1.1%) and waste (2.2%) was lowest. Nearly half (47%) reported consistent application of biosafety skills, with 82% demonstrating high proficiency. Technical skills (58.4%), ethical skills (86.5%), and business management (82%) showed strong outcomes. Competence, defined as high proficiency in at least three of four skill domains, was achieved by 71.9% of morticians. Competence varied by context: morticians in Kakamega County were 69% less likely to be competent compared to those in Vihiga, while those in public facilities were 2.13 times more likely to be competent than those in missionary institutions. Demographic characteristics did not significantly influence competence.

Morticians in Western Kenya exhibited high biosafety proficiency (82%) and competence (71.9%), with facility type influencing outcomes. Continuous biosafety training, competency-based education, and improved resourcing of facilities are recommended to strengthen professional standards.

Keywords: *Competency, Biosafety, Mortuary Science, Practicing Morticians, Western Kenya*

43. PREVALENCE AND ANTIMICROBIAL RESISTANCE OF BACTERIAL CONTAMINANTS IN HIGH-TOUCH HOSPITAL ENVIRONMENTS: A PILOT STUDY IN A KENYAN REFERRAL HOSPITAL

Briton Kavulavu[1*]

[1]School of Medicine and Health Sciences, Department of Public Health, Kabarak University

*Corresponding author: Briton Kavulavu; Email: kavulavu.briton@gmail.com

Abstract

Hospital-acquired infections (HAIs) are a major global health concern, particularly exacerbated by contamination of hospital surfaces, equipment, and healthcare workers' hands with pathogenic and antimicrobial-resistant (AMR) bacteria. Understanding contamination prevalence, bacterial species distribution, and resistance profiles is essential to guide Infection Prevention and Control (IPC) strategies.

This pilot study aimed to evaluate bacterial contamination and AMR patterns on frequently touched surfaces, medical equipment, and healthcare providers' palms at Migori County Referral Hospital, Kenya.

A descriptive cross-sectional pilot study was conducted in April 2020 across four hospital departments: gynecology, pediatric, newborn, and renal units. Sixty-two swabs were purposively collected from sinks, door handles, beds, medical equipment, and staff hands. Samples were cultured using standard microbiological techniques; bacterial identification was performed via MALDI-TOF, and antimicrobial susceptibility testing followed CLSI disc diffusion guidelines, screening for extended-spectrum beta-lactamase (ESBL), carbapenem resistance, methicillin sensitivity, and vancomycin sensitivity.

Of the 62 swabs, 61.3% (n=38) yielded bacterial growth, producing 46 isolates. Contamination rates varied by department: gynecology (78.6%), newborn unit (56.2%), pediatric (61.9%), and renal (45.5%). Gram-negative bacteria predominated (86.96%, n=40), with Acinetobacter spp. as the most prevalent genus (41.3%, n=19), followed by Staphylococcus spp. (13.04%, n=6), Enterobacter spp. (10.9%, n=5), and Klebsiella spp. (8.7%, n=4). Resistance markers were detected in 36.96% (n=17) of isolates; Acinetobacter spp. exhibited the highest resistance rate at 36.84% (7/19). Notably, 10.9% (n=5) of isolates showed both ESBL and carbapenem resistance, while 23.9% (n=11) were ESBL positive only. Resistant strains were most commonly found in the newborn and pediatric units.

This pilot study revealed a high contamination rate of hospital surfaces, equipment, and staff hands, alongside a substantial presence of multidrug-resistant pathogens, particularly Acinetobacter spp. These findings emphasize the elevated risk of HAIs and underscore the urgent need for stringent IPC protocol adherence, regular environmental surveillance, and genomic investigations to map transmission pathways. Enhanced focus on cleaning practices and antimicrobial stewardship is critical to mitigate infection risks in hospital settings.

Keywords: *Hospital-acquired infections, Antimicrobial-resistant, Extended-spectrum beta-lactamase, Carbapenem resistance*

44. PHAGE DISPLAY IDENTIFICATION OF PEPTIDES TARGETING STAPHYLOCOCCUS AUREUS TYPE 5 CAPSULAR POLYSACCHARIDE FOR PRECISION DIAGNOSTIC AND ANTIMICROBIAL APPLICATIONS

Martin Ngutuku Maratani[1,2]*, Diana Fagan[2]

[1]Department of Medical Laboratory Sciences, Kabarak University, Nakuru, Kenya,
[2]Department of Biological Sciences, Youngstown State University, Ohio, USA

*Corresponding author: Martin Ngutuku Maratani; Email: : mmaratani@kabarak.ac.ke

Abstract

Staphylococcus aureus is a major cause of hospital- and community-acquired infections worldwide. The emergence of multidrug-resistant strains, including methicillin-resistant *S. aureus* (MRSA), necessitates innovative approaches for precision diagnostics and targeted antimicrobial development. Phage display technology with computational screening approaches provides a promising platform for identifying peptide ligands with selective affinity for bacterial surface antigens.

The aim of this study is to identify phage-displayed peptides with selective binding affinity for *Staphylococcus aureus* type 5 capsular polysaccharide (CP5) for precision diagnostic and antimicrobial applications.

A Ph.D.-7 random peptide phage display library underwent three rounds of biopanning against *S. aureus* type 5. Selected phage clones were amplified and screened using M13 enzyme-linked immunosorbent assay (ELISA). Binding specificity was evaluated against *S. aureus* type 5 and compared with *S. aureus* type 8, *Staphylococcus epidermidis*, and *Escherichia coli*.

Ten phage clones were isolated following the third round of biopanning. Progressive enrichment increased phage recovery to 2.8×10^{11} pfu/mL by the third panning round. Five clones (MMSAT5-2, MMSAT5-4, MMSAT5-5, MMSAT5-6, and MMSAT5-7) demonstrated reproducible and significant binding to *S. aureus* type 5 with minimal cross-reactivity to comparator bacterial strains. Clone MMSAT5-6 exhibited the strongest binding signal.

Phage display successfully identified peptide-displaying phage clones with selective affinity for *Staphylococcus aureus* type 5 capsular polysaccharide. These findings highlight the potential of peptide-based targeting systems for precision diagnostics and targeted antimicrobial strategies against antibiotic-resistant *S. aureus*. The identified peptides may support future AI-assisted diagnostic and antimicrobial development platforms, contributing to technology-driven infectious disease management and health systems strengthening.

Keywords: *Staphylococcus aureus, phage display, precision diagnostics, antimicrobial resistance, peptide ligands, computational antimicrobial discovery.*

45. MODELING TUBERCULOSIS TRANSMISSION IN NORTHERN UGANDA: A DYNAMIC APPROACH TO UNDERSTANDING OUTBREAK DRIVERS AND OPTIMIZING CONTROL STRATEGIES

Obua Daniel[1*], Johnson Adekunle Owolabi[1], and Fulgensia Kamugisha Mbabazi[2]

[1]African Institute for Mathematical Sciences (AIMS), Kigali, Rwanda,

[2]Department of Mathematics, Busitema University, Uganda.

*Corresponding author: Obua Daniel; Email: daniel.obua@aims.ac.rw

Abstract

Despite intensive control measures, TB remains a persistent public health burden in Northern Uganda, sustained by post-conflict fragility, prevailing poverty, and chronically underdeveloped health infrastructure.

We proposed a deterministic six-compartment SEITRD model Susceptible (S), Exposed (E), Infectious (I), Treatment (T), Drug Resistant (D), and Recovered (R) incorporating reinfection, treatment failure, drug resistance generation, and waning immunity.

The basic reproduction number R0 was derived via the Next-Generation Matrix approach, and the existence and stability of both disease-free and endemic equilibria are established through Jacobian and Lyapunov stability analysis. The model was parameterized using TB and MDR-TB surveillance data (2018– 2025) from eight districts Gulu, Lira, Arua, Kitgum, Pader, Moroto, Adjumani, and Yumbe via Bayesian MCMC.

The model yielded a posterior R0 = 1.027 (95% CI: 1.010–1.040), confirming persistent low-level endemicity marginally above the elimination threshold. Significant inter-district heterogeneity is observed: Moroto records the highest TB incidence (456.9 per 100,000) while Gulu records the lowest (227.8 per 100,000), yet both far exceed the WHO global benchmark of 133 per 100,000. MDR-TB prevalence peaks in Pader (4.2%) and Gulu (3.8%), driven by poor treatment adherence and drug supply failures rather than locally generated resistant strains. The posterior treatment failure rate ($\Omega = 0.054$ yr−1) corresponds to an MDR-TB burden of 3.2–3.4% of total prevalence. An optimal control problem incorporating case-finding (u1), transmission prevention (u2), and adherence support (u3) is formulated under Pontryagin's Maximum Principle and solved via the forward-backward sweep method. Results show that sustaining u1 and u2 at maximum intensity for 10–12 months drives infectious cases to near zero within 15 months, while u3 yields negligible epidemiological impact relative to its cost.

Sensitivity analysis identifies the transmission rate β (+1.0000) and case-finding rate θ (−0.9166) as the dominant drivers of R0, establishing that simultaneous suppression of transmission and scale-up of case detection constitutes the most efficient pathway to TB elimination in the region.

Keywords: *Tuberculosis, SEITRD model, Basic reproduction number, Drug resistance, Northern Uganda, Bayesian MCMC, Optimal control.*

46. IMPROVING TUBERCULOSIS REFERRAL IN RETAIL PHARMACIES: DETERMINANTS AND STRATEGIES FOR HEALTH SYSTEM STRENGTHENING IN NAKURU COUNTY, KENYA

Amos Kandagor[1*], Wanja Tenamberge[2], and Kezia Njoroge[3]

[1]School of Pharmacy, Kabarak University, [2]Riara University, [3]Liverpool John Moores University, UK

*Corresponding author: Amos Kandagor; Email: akandagor@kabarak.ac.ke

Abstract

Tuberculosis poses a significant public health challenge globally. In 2025, an estimated 10.7 million people developed TB and 1.2 million died, highlighting persistent gaps in early detection and treatment initiation. In Kenya, retail pharmacies are often the first point of care for individuals with respiratory symptoms. Yet their contribution to TB control remains underutilized.

The aim of this study is to evaluate determinants of TB referral practices and identify strategies to strengthen TB referral in Nakuru County, Kenya.

A cross-sectional study was conducted among retail pharmacy providers in September 2024. A sample of 134 participants was selected using Cochran's formula. Data were collected using structured questionnaires, observation checklists, and key informant interviews. Quantitative data were analyzed using SPSS V26 and Qualitative data underwent thematic analysis.

Findings revealed a balanced gender distribution of 50% with most respondents being pharmaceutical technologists (86.4%) working in independent, owner-managed pharmacies and operating with limited staffing but extended hours. Although regulatory and commercial records were consistently maintained (100%), clinical documentation was weak (45%) and only 4% had ever referred a presumptive TB case. Patient-related barriers to referral included poor health seeking behaviors, low TB awareness, stigma, financial constraints, and preferences for specific health facilities. Health system barriers included moderate provider knowledge, perceived complexity of referral procedures, pharmacy workload, lack of privacy, inadequate tools, and weak public–private collaboration. Key strategies identified to strengthen TB referral include competency-based training, provision of standardized screening and referral tools, non-financial incentives, and stronger partnerships between pharmacies and public health facilities.

Retail pharmacies represent an accessible but underutilized setting for TB case detection. Addressing patient and health system related barriers through targeted training; adequate screening and referral tools and strong collaboration with public health system could enhance TB referral practice and contribute to improved TB control.

Keywords: *Tuberculosis, Retail pharmacies, TB control, TB referral practices*

47. PERCEPTION AND EXPERIENCES INFLUENCING UPTAKE OF TUBERCULOSIS PREVENTIVE THERAPY AMONG HEALTHCARE WORKERS IN NAKURU COUNTY

Lynn Mumo[1*]

[1]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Lynn Mumo; Email: lmumo@kabarak.ac.ke

Abstract

Tuberculosis Preventive Therapy (TPT) is an important strategy for preventing tuberculosis (TB) and reducing progression from TB infection to active disease. Healthcare workers (HCWs) are among the populations at highest risk of contracting TB, particularly in high TB-burden countries such as Kenya, mainly due to occupational exposure. In line with World Health Organization (WHO) recommendations, the Kenya National Tuberculosis, Leprosy and Lung Disease Program guidelines encourage TPT uptake among HCWs. However, uptake and completion rates remain low in Kenya and other settings, and few studies have explored the perceptions and experiences influencing TPT uptake among HCWs.

This study aims to investigate perceptions and experiences influencing uptake of TPT among HCWs in Nakuru County, Kenya.

A qualitative exploratory study design will be used to examine HCWs' perceptions and experiences regarding TPT uptake. Purposive maximum variation sampling will be employed to include facilities of different levels and ownership types. A total of 74 participants will be recruited, comprising clinical staff, non-clinical staff, and key informants. 8 Focus Group Discussions (FGDs) and 10 Key Informant Interviews (KIIs) will be conducted. Data will be analyzed using Braun and Clarke's thematic analysis framework, with NVivo software used to facilitate

coding and organization of themes. Ethical approval will be sought from the Kabarak University Institutional Research Ethics Committee (IREC), and a research permit obtained from NACOSTI prior to commencement of the study. Ethical principles will be strictly observed.

Findings from this study will help guide interventions to improve TPT uptake among HCWs in Kenya and support evidence-based policy and future research.

Keywords: *Tuberculosis Preventive Therapy, Healthcare Workers, Tuberculosis Prevention, Occupational Exposure, Kenya.*

48. SUSTAINABLE, LOWER-COST TREATMENT PROTOCOL FOR ORGANO-PHOSPHATE POISONING IN RURAL KENYA

Jonathan Nthusi[1*]

[1]School of Medicine and Health Sciences, Department of Family Medicine, Kabarak University

*Corresponding author: Jonathan Nthusi; Email: nthulanthusi@kabarak.ac.ke

Abstract

Organophosphate poisoning is among the leading causes of poisoning in Kenya and a significant public health concern, especially in rural agricultural regions where these chemicals are used as insecticides, pesticides, and herbicides. Current World Health Organization (WHO) protocols lay emphasis on intubation and transfer to a facility with intensive care. Both recommendations are beyond the resources of many rural hospitals in developing countries and, therefore, difficult for poor patients to access.

The aim of this study is to describe the use of an atropine-based, non-intubation protocol for managing organophosphate poisoning at Kapsowar Mission Hospital in a resource-limited rural setting.

A protocol involving atropine, without intubation, was developed and used. The protocol includes placement of a nasogastric tube (NGT), activated charcoal, IV fluids, and atropine, along with other appropriate and supportive measures. The protocol was developed from a literature search of international medical journals and has been used for years at Kapsowar Mission Hospital (KMH).

Organophosphate poisoning outcome data at KMH were reviewed for 2021-23. One patient died within minutes of presentation to the Casualty Ward, but the rest survived to discharge using the above protocol. The cost of the atropine protocol is up to $280 USD in Kenya.

The recommendations of the World Health Organization (WHO) are usually most helpful and applicable to practitioners in under-resourced facilities. In the case of organophosphate poisoning, the recommendations are more appropriate for higher-income countries (HIC) and the highest-level hospitals in low- and middle-income countries (LMIC), facilities that have intubation capability and large quantities of atropine. A protocol with lower atropine dosing could be offered as an alternative, within acceptable patient safety margins.

Keywords: *Organophosphate poisoning, Atropine, Nasogastric tube, Low- and middle-income countries*

A COMPARATIVE STUDY ON THE EFFECTIVENESS OF NUTRITION EDUCATION AMONG CAREGIVERS ON DIETARY DIVERSIFICATION ON CHILDREN IN URBAN VS. RURAL CENTRAL KAJIADO, KENYA

Mary Oyungu[1]*, Phyllis Waruguru[1], and Miriam Muga[1]

[1]Kabarak University, Department of Human Nutrition and Dietetics, Kenya

*Corresponding author: Mary Oyungu; Email: moyungu@kabarak.ac.ke

Abstract

Dietary diversification is essential for optimal child nutrition, particularly in regions facing food insecurity like Kajiado County, Kenya.

This study examined the demographic and socio-economic characteristics of mothers and evaluated the effectiveness of a nutrition education intervention on dietary diversity among caregivers of children aged 6–59 months in both rural and urban areas of Kajiado Central.

A mixed-methods approach was employed, involving 294 participants equally drawn from rural and urban settings. Caregivers received structured nutrition education, and changes in their nutrition knowledge and children's dietary diversity scores (DDS) were measured pre- and post-intervention. Quantitative data were analyzed using SPSS Version 26, while qualitative insights from focus group discussions were thematically analyzed.

The majority of caregivers were female (98.6%), with notable differences in age, marital status, household size, and income between rural and urban areas. While both groups demonstrated high levels of education and nutrition knowledge, dietary diversity remained low, particularly in rural areas. Post-intervention, urban caregivers showed a statistically significant improvement in dietary diversity (mean DDS increase from 5.15 to 6.35, $p = 0.002$), while rural improvements were marginal and not statistically significant (mean DDS increase from 3.15 to 3.45, $p = 0.074$). Qualitative findings revealed cultural beliefs, limited market access, and male-dominated decision-making as key barriers in rural settings, whereas urban caregivers cited financial constraints and time limitations.

The study concludes that while nutrition education improves knowledge, its effectiveness on behavior change is contingent on addressing structural, economic, and cultural barriers. A multifaceted, context-specific approach is recommended to sustainably enhance dietary practices.

Keywords: *Nutrition Education, Dietary Diversity, Rural-Urban Differences, Cultural Barriers*

50. OPTIMIZING HIV TREATMENT OUTCOMES USING LOCAL DIET- AND FOOD-BASED INTERVENTIONS

Mokaya M[1], Bor W[1]*, Inganga F[2], Odera M[2], Musyoki R[3], Muli M[4], Mutemi E[4]

[1]School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics, Kabarak University

[2]Trust for Indigenous Culture and Health, [3]NASCOP, [4]Pan African University

*Corresponding author: Wesley Bor; Email: wbor@kabarak.ac.ke

Abstract

People living with HIV (PLHIV) face heightened risks of advanced HIV disease and non-communicable conditions due to immune dysfunction, chronic inflammation, and antiretroviral therapy (ART)-related metabolic changes. Access to specialized nutrition commodities remains limited, underscoring the need for sustainable, food-based solutions integrated into HIV care.

The aim of this study is to systematically review randomized controlled trials evaluating the effectiveness of food-based and diet-based interventions in improving nutritional and health outcomes among adults living with HIV.

A systematic review of randomized controlled trials (RCTs) was conducted across six continents. From 567 articles identified, 34 were analyzed, focusing on adult PLHIV. Interventions included food-based (e.g., ready-to-use foods, lipid-based feeds, indigenous plant-based diets) and diet-based approaches (e.g., tailored food aid, Mediterranean diet, ketogenic diet, food basket microfinance).

Ready-to-use foods and lipid-based feeds improved BMI (+0.5 kg/m^2, $p<0.05$) and fat-free mass (+1.2 kg, $p<0.05$). Plant-based foods enhanced metabolic health via antioxidant and polyphenol content. Fruit juice increased lymphocyte proliferation (+22 units, $p=0.004$); indigenous micronutrient-rich foods raised CD4 counts (+41 cells/μL, $p<0.05$). Mediterranean diet improved ART adherence (+23%, $p=0.046$). Higher fruit and vegetable intake correlated with better HRQOL ($\beta=0.23$).

Local food and diet-based interventions significantly improve anthropometric, metabolic, clinical, immunological, and behavioral outcomes among PLHIV. Integrating nutrition into Universal Health Coverage (UHC) and Primary Health Care (PHC) packages, incentivizing local production of therapeutic foods, and expanding SHIF coverage for nutrition commodities are critical for sustainability. Clinical trials and capacity building of healthcare workers are recommended to strengthen evidence and implementation.

Keywords: *HIV, People living with HIV, Food-based interventions, Diet-based interventions, Nutrition support, Randomized controlled trials, Systematic review, Nutritional outcomes.*

51. A REVIEW OF THE DETERMINANTS OF EXCESS WEIGHT AMONG WOMEN OF REPRODUCTIVE AGE IN LOW- AND MIDDLE-INCOME COUNTRIES

Pamela Nanyama Nyongesa[1*]

[1]School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics, Kabarak University

*Corresponding author: Pamela Nanyama Nyongesa; Email: pnanyama@kabarak.ac.ke

Abstract

Excess weight among women of reproductive age in low- and middle-income countries is a growing public health concern, increasing the risk of non-communicable diseases and adverse maternal and child health outcomes.

This review examines the key determinants contributing to overweight and obesity in this population.

A comprehensive literature search was conducted from January to May 2024 across Elsevier, PubMed, Embase, and Cochrane using keywords such as "Overweight," "Obesity," "Women of Reproductive Age," and "Developing Countries." Eligible studies included original, full-text articles that aligned with the research topic. Nine studies from Malawi, Mali, Ghana, sub-Saharan Africa, India, Brazil, Ethiopia, Tanzania, and the Maldives were analyzed. Data extraction focused on study characteristics, key findings, and relevant outcome measures, while quality assessment and risk of bias evaluation ensured the reliability of included studies.

Findings indicate that excess weight is primarily driven by advanced age, high household wealth index, white-collar employment, multiparity, marital status (married, divorced, or separated), higher education levels, and media exposure.

Excess weight remains a pressing public health issue requiring targeted interventions. Policymakers should prioritize personalized, resource-driven strategies through health ministries, nutrition programs, and primary healthcare networks to prevent and manage overweight and obesity effectively.

Keywords: *Excess weight, Overweight, Obesity, Women of Reproductive Age, low- and mid-income Countries.*

52. ESTORATIVE EFFECTS OF VITAMIN D ON INSULIN, LUTEINIZING, TESTOSTERONE AND ANTI-MULLERIAN HORMONE LEVELS AS MARKERS OF INSULIN RESISTANCE IN POLYCYSTIC OVARY SYNDROME PATIENTS ATTENDING MOI TEACHING AND REFERRAL HOSPITAL IN KENYA

Mabonga, Cyprian[1*]

[1]Department of Clinical Medicine, School of Health Sciences, Kaimosi Friend's University, Vihiga,

*Corresponding author: Cyprian Mabonga; Email: cmabonga@kafu.ac.ke

Abstract

The paucity of data and the controversies in the studies on the restorative effects of Vitamin D on improving insulin resistance and hyperglycemia, pose a major risk in the fight against metabolic complication associated with polycystic ovary syndrome especially in developing countries like Kenya.

The aim of this study is to determine the restorative effects of Vitamin D on insulin, luteinizing, testosterone and anti-mullerian hormone levels as markers of insulin resistance in polycystic ovary syndrome patients attending Moi Teaching and Referral Hospital in Western part of Kenya**.**

The study adopted two phases; phase 1 was an observational study and phase 2 an interventional phase. A total of 100 participants were divided into 60 for observational comprising of PCOS (20) and controls (infertile-20 and fertile 20), while 40 PCOS served in the interventional study that were randomized into 60,000 IU/week of Vitamin D plus 500mg/day of Metformin (n=20) and Metformin 500mg/day only (n=20) for a period of 12 weeks. Quantification of HbA1c and Fasting blood sugars were done at AMPATH reference laboratories using fluorescence immunoassay and while Vitamin D and Insulin hormone levels were done at MTRH laboratories using Cobas automated Chemiluminescence Roche. Data was entered into a computer using excel sheets then analyzed using STATA version 15, Mann Whitney and Kruskal Wallis test and continuous variables are presented as median (interquartile range).

The study established a statistically significant association between PCOS and predictors of insulin resistance including Anti Mullerian hormone, luteinizing hormone, Testosterone, insulin hormone, with one being a PCOS or non PCOS ($P<0.05$)). The study further established that Vitamin D administered at 60,000 IU per week plus Metformin 500mg per day for 12 weeks led to a statistically significant difference from pre intervention to post intervention on AMH, LH, Testosterone, insulin, Vitamin D hormone ($p<0.05$). The study concludes that Vitamin D may augment Metformin in treatment of these hormones as markers of insulin resistance in women living with Polycystic ovary syndrome.

Vitamin D supplementation may augment Metformin in improving hormonal and metabolic markers associated with insulin resistance among women with polycystic ovary syndrome. These findings suggest the potential benefit of integrating Vitamin D therapy in the management of metabolic complications among PCOS patients.

Keywords: *Polycystic Ovary Syndrome, Vitamin D, Insulin Resistance*

53. EFFECTIVENESS OF NON-PHARMACOLOGICAL PAIN MANAGEMENT TECHNIQUES AMONG CHILDREN AGED 3 TO 5 YEARS AT NAROK COUNTY REFERRAL HOSPITAL

Monicah Wangui Itong'e[1*]

[1]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Monica Itong'e; Email: mitonge@kabarak.ac.ke

Abstract

Pain remains a pervasive and under-treated issue among hospitalized children. Non-pharmacological interventions such as distraction, relaxation, and comfort positioning reduce fear, distress, anxiety, and pain while enhancing the children's sense of control. Despite evidence supporting these interventions, their

utilization remains inconsistent due to the lack of standardized institutional protocols, resulting in preventable distress and emotional suffering among children.

The aim of this study is to evaluate the effectiveness of NPPM techniques among children aged 3 to 5 years at Narok County Referral Hospital

A quasi-experimental pretest-posttest control group design was employed. A calculated sample size of 64 participants was systematically allocated to the intervention (n=32) and control (n=32) groups. Data were collected using the validated Face, Legs, Activity, Cry, and Consolability (FLACC) pain scale, parent/caregiver questionnaires, and observational checklists. Respondents comprised parents and caregivers (54.7%), pediatric nurses (34.4%), and clinical officers (10.9%). Data were analyzed using SPSS version 26, with Mann-Whitney U, Wilcoxon Signed-Rank, ANCOVA, and chi-square tests applied.

Between-group analysis showed no statistically significant difference in pain reduction between the intervention and control groups ($p > 0.05$). However, within the intervention group, NPPM techniques produced a highly significant and clinically meaningful reduction in pain scores ($p < 0.001$), indicating substantial effectiveness in alleviating procedural pain among children aged 3–5 years. Feasibility assessment showed strong acceptance among caregivers and clinicians, while limited resources and high workload were identified as key barriers to implementation.

Although statistical significance was not achieved in between-group comparisons, the within-group findings and positive feasibility outcomes support the introduction of structured NPPM protocols in pediatric procedural care at Narok County Referral Hospital. Addressing resource and infrastructure constraints will be essential for successful implementation.

Keywords: *Pediatric pain management, Non-pharmacological pain management, Procedural pain, Children aged 3–5 years, FLACC pain scale, Quasi-experimental study.*

54. RECOGNITION AND MANAGEMENT OF SPORT-RELATED CONCUSSION FOR RETURN-TO-PLAY

Jeffrey W. Wimer[1*] and Karen Wimer[2]

[1]Wellness & Sport Sciences, Millersville University,

[2]Conestoga Valley School District

*Corresponding author: Jeffrey W. Wimer; Email: jeffrey.wimer@millersville.edu

Abstract

Sport-related concussion (SRC) remains one of the most challenging injuries for healthcare professionals to evaluate and manage despite substantial advances in scientific understanding. Sending an athlete back to participation prematurely increases the risk of subsequent concussion, which may prolong recovery and increase the risk of secondimpact syndrome, a rare but fatal condition.

This session examines concussion recognition tools and return-to-play protocols used in sport. It emphasizes the role of reliable, evidence-based sources in guiding proper assessment and clinical decision-making.

Accurate identification and management of SRC are critical to reducing the risk of long-term complications. Four clinical assessment documents will be reviewed: (a) Sport Concussion Assessment Tool 6 (SCAT6) for healthcare professionals, (b) Child SCAT6 for children under 13, (c) Concussion Recognition Tool-6 (CRT-6) for use by non-healthcare professionals, and (d) SCOAT6 for office use 72 hours after injury.

The National Athletic Trainers' Association (NATA) remains one of the most influential organizations in establishing evidence-based guidelines for concussion management. Since its founding in 1950, NATA has issued comprehensive recommendations for a wide range of athletic injuries.

Current guidelines from the NATA Bridge Statement on the Management of SRC will be incorporated along with other international resources such as the NATA International Committee and the World Federation of Athletic Training and Therapy.

Keywords: *Sport-related concussion, clinical assessment tools, Return-to-Play criteria*

55. ONLINE FOOD DELIVERY APPLICATION UTILIZATION AND NUTRITIONAL STATUS AMONG YOUNG ADULTS: A SYSTEMATIC REVIEW

Nancy Anyango Opiyo[1*], Miriam Muga[1] and Isaac Ithiga[1]

[1]School of Medicine and Health Sciences, Department of Human Nutrition and Dietetics, Kabarak University

*Corresponding author: Nancy Opiyo; Email: nancyanyangoopiyo1998@gmail.com

Abstract

The proliferation of online food delivery applications (OFDAs) has transformed dietary behaviours among young adults, especially in urban and semi-urban settings where convenience, time constraints, and digital access increasingly shape food choices. Although these platforms have improved access to a wide range of foods, concerns remain regarding their contribution to poorer diet quality, higher energy intake and the rising prevalence of overweight and obesity. However, existing empirical evidence on the relationship between OFDA utilization and nutritional status remains inconsistent and context-dependent.

This systematic review synthesized available evidence on the association between OFDA utilization and nutritional status among young adults using the Population, Intervention, Comparison, and Outcome (PICO) framework. The population comprised young adults mainly drawn from university and working populations, the intervention was OFDA utilization, the comparison involved non-users or less frequent users, and outcomes assessed were body mass index (BMI), overweight, and obesity.

A systematic search was conducted in PubMed, Google Scholar, and Science Direct for studies published between 2021 and 2026 in accordance with PRISMA 2020 guidelines. Seven cross-sectional studies conducted in Indonesia, Malaysia, the Philippines, Oman, and other Asian contexts were included, with a total of 1,752 participants. Participants ranged from late adolescents transitioning into adulthood to mid-adulthood young workers. Study quality was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for analytical cross-sectional studies. Overall, the evidence indicated moderate methodological quality, with a moderate risk of bias largely arising from self-reported BMI and OFDA exposure measures, as well as variation in how exposure was defined across studies.

Findings were mixed. Five studies reported no statistically significant association between general OFDA utilization and nutritional status ($p > 0.05$), suggesting that simple exposure to food delivery platforms may not independently influence BMI or overweight status. In contrast, two studies that assessed frequency of OFDA utilization reported significant positive associations. One study identified a statistically significant relationship between frequent OFDA utilization and BMI among university students (χ^2 (2, N=150) = 6.21, $p = 0.045$), while another reported a strong association with overweight status ($p < 0.001$). Overall, frequency of use demonstrated stronger and more consistent associations with adverse nutritional outcomes than general usage.

Occasional OFDA utilization appears unlikely to independently determine nutritional status, whereas frequent use may increase exposure to energy-dense foods and contribute to higher BMI and overweight risk. However, the cross-sectional nature of the included studies limits causal inference, and moderate risk of bias necessitates cautious interpretation. Future research should adopt longitudinal designs, employ objective dietary and anthropometric measures and standardize OFDA exposure definitions to improve comparability and strengthen evidence on this emerging public health issue.

Keywords: *Online food delivery applications, Young adults, Nutritional status, Body mass index, Overweight and obesity, Systematic review.*

56. INTERNALIZED STIGMA AND ASSOCIATED FACTORS AMONG PATIENTS WITH MENTAL ILLNESS ATTENDING FOLLOW-UP PSYCHIATRIC CLINICS AT TENWEK AND LONGISA HOSPITALS

Atnafu Alemayehu Asha[1*]

[1]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Atnafu Alemayehu Asha; Email: atnafuasha@gmail.com

Abstract

Internalized stigma, or self-stigma, is a common experience among individuals living with mental illness. It occurs when individuals adopt negative societal stereotypes, leading to feelings of shame, low self-esteem, hopelessness, and poor adherence to treatment. Although mental health awareness is increasing in Kenya, there is limited research on self-stigma in rural healthcare settings. Bomet County, which has one of the highest reported rates of depression nationally, represents a critical area for investigation. Understanding the burden and correlates of self-stigma in this context is essential to improve mental health outcomes and reduce barriers to care.

This study aims to assess the prevalence of internalized stigma and examine its relationship with socio-demographic factors and social support among adult patients attending psychiatric outpatient clinics at AGC Tenwek Hospital and Longisa County Referral Hospital.

A cross-sectional study design will be employed, targeting 358 patients receiving follow-up care. Participants will be screened using the Clinical Global Impression (CGI) scale to exclude those with severe illness. Data will be collected using a structured questionnaire incorporating the Internalized Stigma of Mental Illness (ISMI-29) scale, as well as items on socio-demographic characteristics and perceived social support. Descriptive statistics will be used to estimate the prevalence of self-stigma, and logistic regression will assess associations between stigma, social support, and demographic factors.

The study is expected to determine the prevalence of internalized stigma among adult patients with mental illness in rural healthcare settings and identify its association with socio-demographic factors and perceived social support. The findings may inform targeted stigma-reduction interventions and strengthen psychosocial support within psychiatric outpatient care.

Keywords: *Internalized stigma, Mental illness, Social support, Rural health, Kenya*

57. PATIENT PERSPECTIVES: TRANSITION OF CARE FROM HOSPITAL TO HOME-BASED END-OF-LIFE CARE AT A FAITH-BASED HOSPITAL IN RURAL KENYA

Grace Wanjiku Macharia[1*]

[1]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Grace Wanjiku Macharia; Email: gwanjiku@kabarak.ac.ke

Abstract

Care transition from hospital to home-based care at the end of life is a critical phase for patients. It is faced with many challenges, including poor care coordination, multiple readmissions, lack of continuity of care, increased hospital deaths, and, above all, poor patients' quality of life. Despite growing recognition of palliative care globally and in Kenya, evidence from patients' own voices about their experience of care transition is limited.

This qualitative research aims to fill this gap by listening to and analyzing patients' own perspectives in a rural setting. It also aims to understand how sociocultural norms affect the transition of care to home-based care at the end of life.

It will be a qualitative interview, a guided phenomenological study. The sample size will be determined by data saturation, and thematic analysis will be used.

Expected results are that patients have poorly coordinated transitions, and sociocultural norms affect transitions to home-based care at the end of life. In addition to contributing to the literature, the findings of this study will be used to improve care transitions at the end of life and to develop culturally sensitive care transition policies for rural hospitals.

Keywords: *Care transition, Home-based care, End-of-life care, Palliative care, Patient experiences, Rural hospitals, Sociocultural norms.*

58. INFANT FEEDING AND CAREGIVING PRACTICES AMONG ADOLESCENT MOTHERS' IMPLICATIONS ON NUTRITIONAL STATUS OF INFANTS AGED 0-6 MONTHS: A SYSTEMATIC REVIEW

Edith Okeiga[1*]

[1]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Edith Okeiga; Email: edithnyaboke@kabarak.ac.ke

Abstract

Optimal infant feeding and caregiving practices during the first six months of life are critical for growth, development, and survival. However, adolescent mothers face unique psychosocial, developmental, and socio-cultural challenges that compromise these practices, with implications for infant nutritional outcomes.

This systematic review synthesized evidence from studies published between 2017 and 2026 on infant feeding and caregiving practices among adolescent mothers and their impact on infants aged 0–6 months.

Seven studies met the inclusion criteria, encompassing diverse settings across sub-Saharan Africa, Asia, and Latin America.

Findings revealed consistently low rates of exclusive breastfeeding (28.5–50%), high prevalence of prelacteal feeding (38–62.5%), and early introduction of complementary foods (49.3–93.7%). Caregiving practices were often inadequate, with adolescent mothers reporting limited childcare skills, reliance on relatives or traditional practices, and challenges in hygiene and health-seeking behaviours. Nutritional outcomes among infants of adolescent mothers were poor, with stunting (22–29.5%), wasting (12–17.1%), and underweight (8.5–22%) rates exceeding global averages. Several studies demonstrated significant associations between exclusive breastfeeding and improved growth indicators, underscoring its protective role.

Overall, the evidence highlights suboptimal feeding and caregiving practices among adolescent mothers as key contributors to elevated malnutrition risk in infants. Addressing these vulnerabilities requires targeted, multi-level interventions, including breastfeeding support, education on caregiving and hygiene, family and community involvement, and innovative approaches such as technology-assisted programs. Future research should prioritize standardized outcome measures and broader exploration of caregiving domains to inform effective policy and practice.

Keywords: *Infant feeding, caregiving practices, adolescent mothers, nutritional status, and infants 0-6 months.*

59. NUTRITION KNOWLEDGE, DIETARY PRACTICES AND NUTRITION STATUS AMONG PREGNANT WOMEN ATTENDING KAPSABET COUNTY REFERRAL HOSPITAL, KENYA

Cheruto Olympia[1*], Bor Wesley[2] and Chege Peter[1]

[1]School of Health Sciences, Food, Nutrition and Dietetics, Kenyatta University, [2]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Cheruto Olympia; Email: marlynne.cheruto@gmail.com

Abstract

Optimal maternal nutrition during pregnancy is essential for fetal growth, maternal health, and the prevention of adverse birth outcomes. Nutrition knowledge influences dietary behaviors, which in turn affect maternal nutrition status. However, evidence regarding the relationship between nutrition knowledge, dietary practices, and nutritional status among pregnant women remains inconsistent across settings.

This systematic review aimed to synthesize available evidence on the association between nutrition knowledge, dietary practices, and nutrition status among pregnant women.

A systematic search of peer-reviewed articles published between 2020 and 2025 was conducted using electronic databases including PubMed, Google Scholar and BMC Studies This review included observational studies (cross-sectional, cohort, and case-control designs) that assessed nutrition knowledge, dietary practices, and nutrition status among pregnant women interventional studies were excluded. Data extraction and quality appraisal were conducted using standardized tools. Findings were synthesized narratively due to heterogeneity in study designs and outcome measurements.

The full articles assessed for eligibility were n=22. Studies which were included in systematic review were n=10. The majority of studies reported levels of nutrition knowledge and dietary diversity. Poor dietary practices were common, including low dietary diversity, inadequate intake of iron-rich and protein-rich foods, and irregular meal patterns. Several studies demonstrated a positive association between higher nutrition knowledge and improved dietary practices. Furthermore, inadequate dietary practices were significantly associated with poor nutrition status with presentation such as anemia, undernutrition, and suboptimal gestational weight gain. However, socio-economic factors for example education level, and access to antenatal care services were established as important mediating factors.

The review indicates that nutrition knowledge is positively associated with improved dietary practices among pregnant women, while poor dietary practices are linked to adverse nutrition outcomes such as anemia, undernutrition, and suboptimal gestational weight gain. Socio-economic factors, including education level and access to antenatal care services, play an important mediating role and should be considered in maternal nutrition interventions.

Keywords: *Nutrition knowledge, Dietary practices, Nutritional status, Pregnant women, Maternal nutrition, Antenatal care.*

60. MORPHOLOGY OF THE PLACENTA IN WOMEN INFECTED WITH MALARIA DURING PREGNANCY

Mercy Singoei[1*]

[1]Department of Clinical Medicine, School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Mercy Singoei; Email: msingoei@kabarak.ac.ke

Abstract

Malaria in pregnancy may cause changes in placental morphology and result in alteration in maternal-fetal perfusion contributing to adverse pregnancy outcomes. It is not fully understood how malaria in pregnancy alters the terminal villus and how these relate to pregnancy outcome.

We aimed determine placenta terminal villi morphology in patients with and without malaria in pregnancy.

The study followed a retrospective cohort design in which 116 placentae, 58 from mothers who have had malaria in pregnancy and 58 from mothers without a history of malaria in pregnancy were assessed by histological examination. Statistical analyses were performed using SPSS to compare features of the placenta in the two groups.

From the findings, the odds of having low placental weight was significantly higher for those with malaria compared to those without malaria (mean placental weights 478.27g ± 40.95 and 511.55g ± 35.58 respectively; p=0.001, OR=4.424). Morphometric analyses showed significantly higher counts of syncytial knot (p <0.001, CI: 1.549 - 4.596) and delamination (p 0.01, CI: 0.715 - 4.667), fibrin deposition (p 0.009, CI: 0.029 - 0.188), smaller intervillous space area (p 0.036, CI: -0.013- -0.362) and (p 0.004, CI: 0.846 - 3.98) in placenta from mothers with malaria in pregnancy compared to the non-exposed group.

The findings provide a morphological basis for understanding adverse pregnancy outcomes in women who have had malaria in pregnancy. Measures should be put in place aggressively to treat and hence reduce the severity of adverse feto-maternal outcomes of malaria infection in pregnant mothers.

Keywords: *Malaria in pregnancy, Placental morphology, Terminal villi, Maternal-fetal perfusion, Adverse pregnancy outcomes, Placental weight.*

061. HPV VACCINE HESITANCY AMONG MOTHERS OF ELIGIBLE DAUGHTERS IN NYARIBARI MASABA, KISII COUNTY, KENYA

Joshua Omwenga Boraya[1*]

[1]University of Eastern Africa, Baraton

*Corresponding author: Joshua Boraya; Email: borayajoshua@gmail.com

Abstract

Human Papillomavirus (HPV) vaccine is cited to be highly effective in preventing targeted HPV related infections including cervical cancer. In Kisii County the vaccine is freely provided yet the uptake is low at 9%.

The aim of this study is to assess factors associated with mothers' willingness to vaccinate their daughters against Human Papillomavirus in Kisii County, Kenya.

This study used an analytical cross-sectional study to explore factors associated with mothers´ willingness to vaccinate their daughters against HPV among 96 mothers who were selected using both multistage sampling of villages (clusters) followed by simple random sampling. Data was collected using researcher administered questionnaire and analyzed using descriptives followed by Binary and multiple logistic regression at 95% confidence interval with p value of <.05 statistical significance.

Majority of the mothers´ were: aged between 20-29 years (50, 52.1%), married (84, 87.5%), having secondary education (65, 67.7%), practicing small scale farming (41,42.7%) and Christians (91, 94.8%) respectively. Mothers´ willingness to allow the daughters to be vaccinated with HPV vaccine was also low at 31.2%. This was significantly associated with low knowledge on HPV infection and HPV vaccine (AOR=21.2; 95% CI: 3.92 – 114.5; p<.001), fear of vaccine future effects (AOR=.180; 95% CI: .055 – .586; p=.004), mother considers the vaccine safe for her daughter (AOR=6.65; 95% CI: 4.09 – 10.79; p=.003) and mothers deeming vaccine to be necessary (AOR=4.52; 95% CI: 1.16 – 17.53; p=.029) respectively.

The findings reveal limited knowledge on HPV vaccine which contributes to widespread doubts on future effect of the vaccine, and mother deeming vaccine necessary for her daughter. Therefore, there is need for community-based education intervention to provide accurate information and encourage HPV vaccination. This will improve vaccine uptake and consequently reduce cervical cancer burden.

Key words: *Human papilloma virus vaccine, Cervical cancer, barriers, mothers' willingness.*

62. PREPAREDNESS OF LEVEL II-V HEALTHCARE FACILITIES FOR CERVICAL CANCER SCREENING IN THARAKA NITHI COUNTY, KENYA

Desanges Kasoki Devughe[1*]

[1]School of Medicine and Health Sciences, Kabarak University

*Corresponding author: Desanges Kasoki Devughe; Email: dkasoki@kabarak.ac.ke

Abstract

Cervical cancer remains a significant public health concern worldwide, particularly in low- and middle-income countries where screening and early detection services are often inadequate. Despite global efforts to improve cervical cancer screening, uptake remains critically low. Screening rates range between 3% and 14%, with 95% of women never been screened, leading to late diagnosis and poor outcomes.

This study seeks to determine the preparedness of health facilities to provide cervical cancer screening services in Tharaka Nithi County, Kenya. The specific objectives include; to determine the availability of cervical cancer screening guidelines, the availability of screening equipment and to evaluate the capacity of healthcare facilities to screen cervical cancer and manage pre-cancerous lesions (in Level III-V).

The study will be done in Level II –V healthcare facilities in Tharaka Nithi County. Descriptive cross-sectional research design will be adopted. The study will target healthcare workers in charge of cancer screening in the selected healthcare facilities. The sample size for the healthcare workers will be 128 distributed across all the six sub-counties in Tharaka Nithi County. Stratified sampling will be used to group the county into their various sub-counties. The study will adopt the WHO Service Availability and Readiness Assessment tool to assess the facilities' preparedness. This will be modified and converted into an electronic questionnaire (Google Forms). Quantitative data will be analyzed using basic descriptive statistics then analyzed for relationship and inferential statistics using Pearson correlation and chi- Square using SPSS version 29. The researcher will prioritize the principles of respect, privacy, and protection from both physical and psychological harm for the participants involved in this study.

The study is expected to establish the level of preparedness of health facilities in Tharaka Nithi County to provide cervical cancer screening services. It will identify gaps in the availability of screening guidelines, equipment, trained healthcare workers, and capacity to manage pre-cancerous lesions. The findings are expected to inform targeted improvements in facility readiness, resource allocation, and strengthening of cervical cancer screening services.

Keywords: *preparedness, health facilities, screening, cervical cancer.*

63. SIXTY SECONDS TO SURVIVAL: THE POWER OF THE GOLDEN MINUTE IN NEWBORN CARE

Susan Brackbill[1*]

Affiliations: [1]Wehrheim School of Nursing, Millersville University

*Corresponding author: Susan Brackbill; Email: susan.brackbill@millersville.edu

Abstract

Birth asphyxia is among the top three causes of neonatal death in the first days of life, accounting for roughly 24% of global neonatal mortality, with rates closer to 40% in low-income countries and 29% in middle-income countries, according to the World Health Organization (Yehouala et al., 2024).

With optimized resuscitation efforts and tools, birth asphyxia-related deaths are preventable in the absence of other congenital anomalies or pathologies, thus addressing the third Sustainable Development Goal of achieving good health and wellness and the tenth of reducing inequalities (United Nations, Department of Economic and Social Affairs).

With the global evidence-based initiative developed by the American Academy of Pediatrics and other global partners, Helping Babies Breathe (HBB), neonatal mortality in developing countries is drastically reduced by teaching traditional birthing attendants neonatal resuscitation skills when newborns fail to transition after birth. Establishing respirations through positive pressure ventilation and airway suctioning, if needed, within the first minute of life, known as the Golden Minute, directly impacts neonatal survival rates and long-term quality of life (Patel et al., 2023).

HBB was developed to address preventable neonatal deaths due to birth asphyxia. Numerous studies conducted in developing countries have shown promising improvements in resuscitation skills and neonatal outcomes, while also highlighting the need for ongoing training and continuous skill improvement (Priebe et al., 2024).

While many factors influence neonatal outcomes, including maternal health, HBB is an effective intervention in the prevention of neonatal deaths related to birth asphyxia. Given the resource demands to sustain HBB implementation and resuscitation skills, strategic engagement with legislators and government officials at the local, state, national, and global levels is vital for long-term sustainability.

Keywords: *Birth asphyxia, global neonatal mortality, neonatal resuscitation, Helping Babies Breathe.*

64. INFLUENCE OF CULTURAL PRACTICES ON DISEASE BURDEN AMONG FIVE SELECTED COMMUNITIES IN KENYA

Michael Nyongesa Walekhwa[1*] Diana Munyao[1], Titus Suge[3]

[1]School of Medicine and Health Sciences, Department of Medical Laboratory Sciences, Kabarak University, [3]School of Pharmacy, Kabarak University

*Corresponding author: Michael Nyongesa Walekhwa; Email: mwalekhwa@kabarak.ac.ke

Abstract

Cultural practices can shape health behaviours, healthcare-seeking patterns, environmental exposures, and dietary habits, thereby influencing the burden of infectious and non-communicable diseases among diverse Kenyan communities.

This cross-sectional study examined the relationship between cultural practices and disease burden in five Kenyan communities: Maasai (Kajiado), Kikuyu (Nyeri), Luo (Kisumu), Kalenjin (Nandi), and Mijikenda (Kilifi).

A stratified random sample of 1,250 participants (250 per community) completed structured questionnaires assessing traditional health practices, dietary customs, sanitation behaviors, and disease prevalence. Clinical assessments documented infectious disease burden (malaria, tuberculosis, respiratory infections) and non-communicable diseases (hypertension, diabetes).

Multivariate regression analyses revealed significant associations between specific cultural practices and disease outcomes. Traditional herbal medicine use was associated with delayed healthcare-seeking ($\beta = 0.43$, $p < .001$) and increased infectious disease prevalence (OR = 2.67, 95% CI [2.12, 3.36]). Female genital cutting correlated with higher rates of urogenital infections (OR = 3.89, 95% CI [2.94, 5.14]). Pastoral communities showed elevated malaria burden (48.3% vs. 21.4%, $p < .001$) linked to housing structures and nomadic patterns. Dietary practices high in processed carbohydrates correlated with increased diabetes prevalence ($r = .58$, $p < .001$).

Conclusion: The findings demonstrate that cultural practices significantly influence disease burden through

behavioral, environmental, and structural pathways. Culturally-sensitive interventions integrating traditional knowledge with evidence-based medicine are essential for reducing health disparities in diverse Kenyan populations.

Keywords: cultural practices, disease burden, Kenya, traditional medicine, health disparities, infectious diseases, non-communicable diseases.

65. ZOONOTIC DISEASES AWARENESS AND PREVENTION PRACTICES AMONG CATS AND DOG OWNERS IN URBAN COMMUNITIES

Valentine Mwangi

*Corresponding author: Valentine Mwangi; Email: valcutemwangi@gmail.com

Abstract

There is a general surge in pet ownership among urban dwellers. This form of pet ownership is instrumental in keeping company to the owners and making homes lively. Cats and dogs are the most common pets found in urban and rural homes. As urban pet ownership increases significantly, there is a concern about the owner knowledge, attitudes and prevention practices for zoonotic diseases such as rabies, ringworms and toxoplasmosis. Poor awareness and inconsistent preventive behaviors increase health risks to both humans and animals.

In this study, the researcher will assess the level of awareness, common prevention practices and factors associated with adequate prevention among cat and dog owners in Nairobi region. The study will seek to measure the level of knowledge about major zoonotic diseases among urban pet owners, describe prevention practices such as vaccination and deworming and to find out barriers to prevention behaviors among the pet owners.

The study is expected to establish the level of awareness of major zoonotic diseases among cat and dog owners, describe common prevention practices such as vaccination and deworming, and identify barriers to adequate prevention behaviours among pet owners in Nairobi region.

This study will be instrumental to public health by linking pet owner behavior to zoonotic risks.

Keywords: *Zoonotic diseases, Pet ownership, Cat and dog owners, Rabies, Ringworms, Toxoplasmosis, Prevention practices, Nairobi.*

66. PREDICTORS OF WORK PRODUCTIVITY IMPAIRMENT AND OCCUPATIONAL DISABILITY IN CHRONIC LOW BACK PAIN: A CROSS-SECTIONAL ANALYSIS IN WESTERN KENYA

Stellah Papa[1*]

[1]Masinde Muliro University of Science and Technology

*Corresponding author: Stella Papa; Email: stellahpapa2018@gmail.com

Abstract

Chronic low back pain (CLBP) is a leading cause of disability worldwide and is associated with reduced functional capacity, absenteeism, and diminished work productivity. In Kenya, limited data exist on the occupational impact of CLBP.

This study assessed the effect of chronic low back pain on work productivity among adult patients attending Kakamega County Teaching and Referral Hospital.

A cross-sectional quantitative descriptive and analytical study was conducted among 144 adults with CLBP lasting more than 12 weeks. Participants were purposively recruited from the orthopedic outpatient clinic and magnetic resonance imaging department. Data were collected using the Work Productivity and Activity Impairment (WPAI) questionnaire. Descriptive statistics summarized participant characteristics and work productivity outcomes. Inferential analysis assessed associations between pain severity, activity limitation, gender, and work productivity impairment. Binary logistic regression was used to estimate the independent effect of pain severity on productivity impairment. Statistical significance was set at $p < 0.05$.

Of the 144 participants, 42 (29.2%) were employed and 102 (70.8%) were unemployed. Overall, 90 participants (62.5%) reported that pain negatively affected their work productivity during the previous seven days. In the preceding month, 48 (33.3%) reported five days off work due to pain, while 48 (33.3%) had taken at least one week off during the previous three months. Pain severity was strongly associated with work productivity impairment ($\chi^2 = 66.63$, $df = 2$, $p < 0.001$), as was activity limitation ($\chi^2 = 67.61$, $df = 2$, $p < 0.001$). Gender was also significantly associated with productivity impairment ($\chi^2 = 24.67$, $df = 1$, $p < 0.001$). Logistic regression showed that increasing pain severity significantly increased the odds of work productivity impairment ($p < 0.001$).

Chronic low back pain significantly compromises work productivity and contributes to substantial absenteeism. Early multidisciplinary interventions are recommended to reduce its occupational burden.

Keywords: Chronic Low Back Pain, Work Productivity, Occupational Disability, Absenteeism, WPAI, Western Kenya.

67. UNITING THE VOICE OF NURSING THROUGH ADVOCACY

Kelly A. Kuhns[1*]

[1]Wehrheim School of Nursing, Millersville University

*Corresponding author: Kelly Kuhns; Email: kelly.kuhns@millersville.edu

Abstract

Building strong, resilient health systems presents an opportunity for nurses to unify their voices to champion innovation, equity, and collaboration. As the largest global workforce, nurses have a pivotal role in shaping policy and practice. Advocacy is our professional responsibility and a mechanism by which we can strengthen our nursing identity, voice, and influence systemic change. Creating and nurturing a strong nursing identity fosters confidence, ethical practice, and leadership, empowering nurses to advocate more effectively for patients and communities.

This work explores how Benner's Novice-to-Expert framework and Covell's Intellectual Capital Theory can guide the development of advocacy competencies, strengthen nursing identity, and amplify the collective voice of nursing within health systems.

Benner's Novice-to-Expert framework provides a guiding principle for developing advocacy competencies across the continuum of nursing expertise. Novice nurses often lack confidence in policy engagement, while expert nurses leverage experiential knowledge to influence decision-making at organizational and legislative levels. Structured mentorship and education grounded in Benner's model can accelerate progression, ensuring that nurses at all stages contribute meaningfully to advocacy efforts. Complementing Benner's framework, Covell's Intellectual Capital Theory underscores the value of nursing knowledge as a strategic asset for health systems. Intellectual capital, comprising human, structural, and relational components, enhances organizational capacity and innovation. By investing in nurses' intellectual capital through education, leadership development, and collaborative networks, health systems can optimize advocacy outcomes and advance universal healthcare goals.

Innovation in advocacy such as leveraging digital platforms, interprofessional partnerships, and community engagement aligns with strategies to advance the voice of nursing. Uniting the nursing voice and recognizing its intellectual capital could amplify its impact on health policy, resource allocation, and workforce sustainability.

Embedding advocacy into nursing identity and professional development strengthens resilience in health systems, ensuring they are prepared for global health challenges.

Keywords: *Nursing advocacy, professional identity, Benner's Novice-to-Expert, Covell's Intellectual Capital Theory, universal health coverage, empowerment*

68. 3D PRINTING IN PHARMACEUTICAL MANUFACTURING: A NARRATIVE REVIEW OF OPPORTUNITIES AND CHALLENGES FOR PERSONALIZED AND PATIENT-CENTERED DOSAGE FORMS

Allan G. Wanjama[1]*, Vincent O. Nyandoro[1]

[1]School of Pharmacy, Kabarak University, Nakuru, Kenya

*Corresponding author: Allan Wanjama; Email: allanwanjama@gmail.com

Abstract

Traditional pharmaceutical manufacturing relies on mass production, which often fails to meet the specific therapeutic needs of diverse patient populations. Three-dimensional (3D) printing has emerged as a disruptive technology capable of shifting the industry toward a patient-centered healthcare model.

This review synthesizes current advancements in 3D printing technologies for pharmaceutical manufacturing, focusing on its potential to create personalized dosage forms while evaluating the technical and regulatory hurdles preventing widespread clinical adoption.

A comprehensive literature search was conducted across databases including PubMed, ScienceDirect, and Google Scholar, focusing on peer-reviewed articles published between 2016 and 2026. Keywords included "3D printing,""personalized medicine,""pharmaceutical manufacturing," and "printlets." Studies were evaluated based on printing technologies, formulation of flexibility, and regulatory challenges.

The review highlights that technologies like Fused Deposition Modeling (FDM), Stereolithography (SLA), and Selective Laser Sintering (SLS) enable the precise fabrication of complex geometries, multi-drug combinations (polypills), and tailored release profiles. These innovations offer immense opportunities for pediatric, geriatric, and oncology patients who require precise dosing. However, significant challenges remain, including limited choices of pharmaceutical-grade polymers, thermal degradation of active ingredients during processing, long printing times, and the lack of standardized regulatory frameworks by agencies.

3D printing offers an unprecedented opportunity to transition from generic dosing to precise, patient-centered therapy. To fully realize this potential at the point-of-care, future research must focus on developing low-temperature printing techniques and establishing robust quality control standards to satisfy regulatory requirements.

Keywords: *3D printing, additive manufacturing, personalized medicine.*

69. UNDERGRADUATE NURSING RESEARCH EDUCATION AND PREPAREDNESS FOR EVIDENCE BASED PRACTICE: A CROSS-SECTIONAL STUDY IN KENYAN NATIONAL REFERRAL HOSPITALS

Domnick Abungu[1*], Anne Koskei Ng'eno[1], Joyce Balidawa[2]

[1]Department of Family Medicine Community Health, and Medical Education. Moi University, Kenya,
[2]Department of Mental Health and Behavioral Sciences, Moi University

*Corresponding author: Domnick Abungu; Email: dabungu@kabarak.ac.ke

Abstract

Despite global recognition of evidence-based practice (EBP) as a cornerstone of quality nursing care, rigorous multi-institutional evidence characterizing the EBP preparedness of Bachelor of Science in Nursing (BScN)-trained nurses in Kenyan tertiary hospital settings remains sparse. Most existing literature originate from high-income Western contexts and rely on single-institution convenience samples.

This study determined the extent to which exposure to undergraduate nursing research education prepares nurses to apply EBP in clinical settings at two national referral hospitals in Kenya.

Using a concurrent embedded mixed-methods design, a descriptive cross-sectional survey was administered to 136 BScN nurses (92.5% response rate), complemented by in-depth interviews with 20 purposively selected nurse managers at Moi Teaching and Referral Hospital and Nakuru County Teaching and Referral Hospital.

Universal undergraduate research exposure (100%) was confirmed, and self-rated preparedness was consistently high across all six research competency domains, ranging from 82.3% (data collection and analysis) to 90.4% (literature review), with excellent internal consistency (Cronbach's $\alpha = .9565$). Preparedness ratings were statistically homogeneous across all demographic subgroups ($p > .05$). However, qualitative narratives revealed a critical preparedness-competence paradox: declared readiness reflected declarative knowledge of research concepts but not procedural competence to appraise primary literature, conduct data analysis, or implement evidence in clinical contexts; the undergraduate curriculum was experienced as a compliance-driven, proposal-only exercise rather than full-cycle, practice-embedded learning trajectory.

Undergraduate nursing research education in Kenya successfully instills EBP attitudes and normative preparedness, but fails to cultivate applied competencies necessary for authentic evidence implementation. The Nursing Council of Kenya and the nursing training universities should lead a curriculum audit and reform to embed full-cycle research practicums, including supervised data collection, analysis, and critical appraisal across BScN training, supported by structured school-hospital clinical EBP partnerships

Keywords: *Evidence-Based Practice, Nursing Research Education, Preparedness-Competence Gap, Kenya Referral Hospitals.*

70. EFFECTS OF DONORS' EDUCATION LEVEL, ABO/RHESUS BLOOD GROUPS AND DONATION TIME ON ADVERSE REACTIONS AT KISUMU REGIONAL BLOOD TRANSFUSION CENTRE, KENYA

Okwaro Irene[1*], Shiundu Meshack[1], Osewe Fredrick[1], Wanjala Allan[2], Rajab Nassim[1], and Korir Josphat[1]

[1]Kenya Medical Training College, Nairobi, Kenya, [2]Karatina University, Nyeri, Kenya

*Corresponding author: Irene Okwaro; Email: okwaroirene47@gmail.com

Abstract

Blood donation-related adverse reactions (BDRARs) are an important concern in transfusion medicine because they may affect donor safety, satisfaction, and future willingness to donate. Identifying factors associated with these reactions is essential for improving donor management and retention.

This study assessed the influence of donors' education level, ABO/Rhesus blood groups, and time of donation on the occurrence of adverse reactions among voluntary blood donors at the Kisumu Regional Blood Transfusion Centre, Kenya.

A cross-sectional study was conducted among 542 voluntary blood donors recruited at the Kisumu Regional Blood Transfusion Centre. Data was collected using standardized questionnaires and blood donation-related adverse reaction reporting forms. Descriptive and inferential statistical analyses were performed using SPSS version 27. Associations between donor characteristics and adverse reactions were evaluated using Chi-square tests, with statistical significance set at $p < 0.05$.

Overall, 5.7% (n = 31) of donors experienced adverse reactions, while 94.3% (n = 511) reported no complications, demonstrating the overall safety of blood donation. Blood group A donors recorded the highest proportion of adverse reactions (9.5%), whereas blood group O donors had the lowest proportion (4.1%). However, no significant association was observed between ABO blood group and adverse reactions ($\chi^2 = 4.854$, $p = 0.183$). Rhesus status was also not significantly associated with adverse reactions ($p = 0.333$). Adverse reactions occurred in 6.2% of donors with secondary education and 4.6% of those with tertiary education, with no statistically significant difference ($\chi^2 = 0.842$, $p = 0.839$). Donation time showed no significant association with adverse reactions ($\chi^2 = 1.268$, $p = 0.867$), although morning donations recorded a slightly higher prevalence (7.7%). Sweating (2.0%) and dizziness (0.7%) were the most commonly reported reactions. Most participants were first-time donors (86.2%), and younger individuals constituted the largest donor group.

BDRARs were infrequent, and none of the studied factors showed a statistically significant association with their occurrence. Further research should explore other determinants of donor reactions while reinforcing the safety of blood donation.

Keywords: *Donors' education level, ABO/Rhesus blood groups, donation time, adverse reactions, Regional Blood Transfusion Centre, Kisumu.*

71. MENTAL HEALTH AND ASSOCIATED FACTORS AMONG ADOLESCENTS AND YOUNG ADULTS LIVING WITH HIV ATTENDING KERICHO COUNTY REFERRAL HOSPITAL COMPREHENSIVE CARE CENTRE

Rither Langat[1*], Samuel Mulongo[1], Edwin Masese[1]

[1]School of Medicine and Health Sciences, Kabarak University,

*Corresponding author: Rither Langat; Email: ritherchepkemoi@kabarak.ac.ke

Abstract

Mental health is a public health problem, especially among people living with HIV. Adolescents and Young adults living with HIV (AYLWH) are faced with challenges that can significantly interfere with their sense of well-being and their adherence to Anti-Retroviral Therapy (ART). The prevalence of mental and behavioral health issues among HIV-infected adolescents may not be well understood or addressed as the world scales up HIV prevention and treatment for adolescents.

The aim of this study is to investigate the factors associated with mental health among adolescents and young adults living with HIV at Kericho county Referral Hospital, Comprehensive Care Centre.

This will be a cross-sectional study which will collect data on sociodemographic, Clinical and Mental Health conditions (Depression, Anxiety and Post- Traumatic stress Disorder) among Adolescents and young Adults 15-24 years enrolled at Kericho County Referral Hospital, Comprehensive Care Centre. The collected data will be cleaned and entered into SPSS version 24 for analysis. Descriptive statistics will be analyzed. Multivariate logistic regression will be used to identify factors associated with mental health disorders among adolescents and young adults living with HIV.

The need for a better understanding of mental health challenges and the barriers to mental health services are especially important when mental health assessment and treatment are routinely done. Adolescents and young adults living with HIV may face an increased burden of mental, behavioral, and medical disorders leading to unfavorable outcomes. The study findings will assist in understanding the associated factors to mental health and how to better address this at clinic level. Adolescents and young adults will further benefit from close monitoring and management of mental health conditions.

Mental health is a public health problem. It is associated with poor health outcomes. Achieving mental health is an important aspect of sustainable development goals (SDG 3) by 2030. Mental health is important in all perspectives critical to the survival of people, especially those who might be vulnerable, especially adolescents and young adults living with HIV.

Keywords: *Mental health, Adolescents and Young adults living with HIV, Anti-Retroviral Therapy, Kenya*

72. BRIDGING THE GAP: A MULTIMODAL TRANSITION SUPPORT SYSTEM TO OVERCOME THE PRECLINICAL-TO-CLINICAL TRANSITION AMONG HEALTH SCIENCES STUDENTS

Robert Mumo, Matsetse Victor, Koima Ivy, Rosemary Mayaka, Emmanuel Shikuku, Odhiambo Abrahim, Muigei Rebecca

School of Medicine and Health Sciences, Kabarak University

Email: smugamba@kabarak.ac.ke

Abstract

To build a strong healthcare system, we need confident and well trained doctors. However the sudden jump from reading textbooks in a classroom to application in real-world clinical settings while adapting to new professional roles, responsibilities and healthcare environment leaves many students in anxiety, low self confidence and difficulty in applying theoretical scientific knowledge. These challenges contribute to the persistent theory-practice gap and may negatively affect learning experiences, clinical competence and patient care outcomes.

To address this challenge, we propose the Multimodal Transition Support System (MTSS), an innovative technology-supported platform designed to facilitate students' transition from pre-clinical learning to clinical practice. The system integrates evidence based educational and psychosocial support strategies within a single accessible platform. Having key components as; structured clinical orientation, clinical skills reinforcement through simulation and guided learning resources, communication and professionalism training, clinical reasoning and decision making exercises, emotional and resilience support and mentorship network linking students with peers, educators, and clinical instructors.

The MTSS adopts a holistic approach by addressing both the academic and emotional dimensions of transition. Through interactive learning modules, reflective practice tools, mentorship opportunities, and continuous support, the platform aims to enhance clinical preparedness, strengthen confidence, improve communication competence, and promote the effective application of theoretical knowledge in clinical settings.

This best practice innovation has the potential to improve students' adaptation to clinical environments, reduce transition-related stress, and bridge the theory-practice gap in health sciences education. The proposed system offers a scalable and sustainable model that can be integrated into existing training programs to support the development of competent, confident, and practice-ready healthcare professionals.

Keywords:

CONFERENCE PLANNING SECRETARIAT

1. Prof. Pamela Kimeto - Dean School of Medicine and Health Sciences (SMHS)
2. Dr. Titus Suge - Dean School of Pharmacy (SOP)
3. Dr. Josephat Tonui-SMHS-Research Chair
4. Dr. Rose Obat – SOP-Research Chair
5. Dr. Arthur Ngetich- SMHS-Editor
6. Ms. Valarie Suge - SMHS
7. Mr. Samuel Kingi - SMHS
8. Dr. Shadrack Bett - SMHS
9. Dr. Jonathan Nthusi - SMHS
10. Dr. Kelvin Manyega - SOP
11. Dr. Sam Mulongo - SMHS
12. Dr. Philip Towett – SMHS
13. Dr. Jonathan Nthusi - SMHS
14. Dr. Moses Mogesi- SMHS
15. Mr. Helmut Khol - SMHS
16. Dr. Doris Kibiwott - SMHS
17. Dr. Phylis Waruguru - SMHS
18. Ms. Mercy Singoei - SMHS
19. Mr. Pius Mathi - SMHS
20. Ms. Gladys Chepkemoi - SMHS
21. Ms. Josephine Amge - SMHS
22. Dr. Michael Walekhwa - SMHS
23. Dr. Miriam Muga - SMHS

16TH INTERNATIONAL RESEARCH CONFERENCE
SCHOOL OF MEDICINE AND HEALTH SCIENCES 2026

Conference Theme:

Building Resilient Health Systems Through Innovation, Equity, and Multisectoral Action to Advance Universal Health Coverage

Tagline: ***Stronger Systems, Healthier Communities, Shared Future***

Moral Code As members of Kabarak University family, we purpose at all times and in all places, to set apart in one's heart, Jesus Christ as Lord. (1 Peter 3:15)