

KABARAK
UNIVERSITY
Education in Biblical Perspective



SCHOOL OF MEDICINE AND HEALTH SCIENCES

ANNUAL INTERNATIONAL HEALTH RESEARCH CONFERENCE

PROGRAM AND BOOK OF ABSTRACTS

*Theme: Translating Health Research and Innovation
into Policy and Practice*

MAY 2025





KABARAK UNIVERSITY | Education in Biblical Perspective

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. the Late 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.

Location

Kabarak University Main Campus is located 20 kilometers north of Nakuru City, along the Nakuru-Eldama Ravine highway in a serene, spacious and beautiful environment that makes it ideal for learning. The University has state-of-the-art facilities for teaching, learning, research, accommodation, catering, and sports. The facilities are purpose-built to enhance intellectual, physical, and spiritual growth. Nakuru City Campus is located one kilometer from Nakuru CBD, along Prison Road, off Nakuru-Kabarnet Road.

Vision

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

Mission

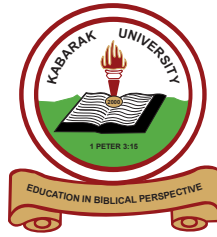
To provide holistic quality education, research and community outreach based on Biblical Christian values.

Philosophy

To provide quality education in Biblical perspective that transforms lives.

Core Values

- ✓ Integrity
- ✓ Professionalism
- ✓ Patriotism
- ✓ Innovativeness
- ✓ Being Mindful of Others



KABARAK UNIVERSITY

SCHOOL OF MEDICINE AND HEALTH SCIENCES

ANNUAL INTERNATIONAL HEALTH RESEARCH CONFERENCE

Conference Theme:

***'Translation of Health Research and Innovation to Policy
and Practice'***

PROGRAM AND BOOK OF ABSTRACTS

MAY 2025



VICE CHANCELLOR OF KABARAK UNIVERSITY

Prof. Henry Kiplangat, PhD, MBS, OGW

Thank you, for joining us today for Kabarak University International Annual Health Research Conference 2025, hosted by the School of Medicine and Health Sciences. It is an honor to have you all both in-person and those attending online from different parts of the world.

This conference, whose theme is “**Translation of Health Research and Innovation into Policy and Practice**”, comes at a time when the world is seeking innovative solutions to address critical health challenges. It emphasizes the essential bridge between knowledge generation and real-world impact.

Ladies and gentlemen, the true value of groundbreaking medical research lies in its ability to inform policies, transform healthcare systems, and improve patient outcomes. By translating research findings into actionable policies and practices, we ensure that scientific discoveries do not remain confined to academic journals but instead lead to tangible benefits for society such as:

1. stronger health systems,
2. more effective disease prevention strategies,
3. equitable healthcare access and more resilient communities.

The theme also aligns with national and global development goals, particularly the Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs) encouraging collaborations to turn evidence into sustainable solutions for current and emerging health challenges.

In the Kenyan context, this theme aligns with key national initiatives such as:

1. the Bottom-Up Economic Transformation Agenda (BETA),
2. the Kenya Health Policy (2014–2030),
3. the Kenya National Strategy for the Prevention and Control of Non-Communicable Diseases, and
4. the Kenya Health Sector Strategic and Investment Plan.

These frameworks emphasize the importance of evidence-based interventions in strengthening health service delivery which contributes to Kenya’s vision of a **healthy, productive, and globally competitive** population.

Kabarak University 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)



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DEAN SCHOOL OF MEDICINE & HEALTH SCIENCES

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

Welcome Address

It is my pleasure to welcome you to the 15th Kabarak University International Conference on **'Translation of Health Research and Innovation to Policy and Practice'**, organized by the School of Medicine and Health Sciences.

The global health landscape continues to evolve, presenting complex challenges that demand evidence-based and innovative solutions. This year's conference theme underscores the urgent need to bridge the gap between research, innovation, and implementation—ensuring that scientific knowledge directly informs policy and transforms healthcare delivery.

We are delighted by the range of submissions received, touching on critical areas such as public health, infectious diseases and antimicrobial resistance, human nutrition, community health, medical education and maternal health among others. These presentations will provide a rich foundation for learning, dialogue, and collaborative thinking. Our students from various departments are also participating and playing a critical role in ensuring the success and impact of this conference.

We are honored to host Prof. Peter Melby as our keynote speaker—thank you for joining us. I sincerely appreciate the support of the University Management, the Directorate of Research, our dedicated School Research Committee, and the Conference Secretariat.

To all presenters and attendees, both in-person and online, thank you for your valued participation. Your presence affirms the importance of this engagement in shaping health systems and improving lives through research and innovation.

Welcome and I wish you a fruitful conference.



KEY NOTE SPEAKER-BIO

Professor Peter C. Melby, MD

Director, Division of Infectious Diseases; Director,
Center for Tropical Diseases

University of Texas-Medical Branch, Galveston, Texas.

Dr. Melby is a Professor of Internal Medicine in the Division of Infectious Diseases at the University of Texas Medical Branch (UTMB) in Galveston, Texas. He is active in the clinical practice of infectious diseases, basic and clinical research, program leadership, and in teaching graduate students and clinical trainees. He has an active research program related to the immunopathogenesis of parasitic diseases, with a particular focus on leishmaniasis. His laboratory has been involved in studies related to vaccine development, disease pathogenesis, diagnostics, and drug discovery. In recent years his lab has focused on investigating the immune deficits and pathophysiology of childhood malnutrition. His research involves study of animal models and patients in East Africa. Dr. Melby's interest in tropical diseases and the neglected diseases of resource-limited countries started forty years ago when he first worked overseas in a hospital laboratory in rural Egypt. He subsequently has worked in over 15 countries. He attended medical school at the University of Colorado and then went on to complete his residency in Internal Medicine at the University of Missouri, a research fellowship at the National Institutes of Health, and a clinical infectious diseases fellowship at the University of Texas Health Science Center, San Antonio, where he was subsequently a faculty member for 20 years. At UTMB he leads the Center for Tropical Diseases, which includes more than 60 faculty members dedicated to the mission of impacting tropical diseases through research, education, and service. He is the founding Director of the Global Infectious Diseases Research Network, which includes UTMB and 6 institutions in Latin America. From 2016-2024 he was Chief of the Division of Infectious Diseases at UTMB. He is Program Director of a NIH-funded training program for "Training Physician-Scientists in Emerging Infectious Diseases."

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DAY ONE

TUESDAY 13TH MAY, 2025

TIME		PRESENTER
0800-0900 Hours	Registration and Tea for Participants	Secretariat
0900-0910 Hours	National Anthem, East Africa community Anthem, Kabarak University Anthem	All participants
0910-0930 Hours	Devotion, opening prayer & a song	Rev. Justus Mutuku <i>University Provost</i>
0930-0940 Hours	Dean SMHS welcomes participants and invites Director RIO	Prof. Pamela Kimeto <i>Dean SMHS</i>
0940-0950 Hours	Nakuru County Department of Health	Representative
0950-1010 Hours	DVC A & R to make his remarks and invite the Vice-Chancellor	Prof. John Ochola DVC A & R
1010-1030 Hours	Vice-Chancellor makes his remarks, officially opens the Conference and invites the Key Note Speaker	Prof. Henry Kiplangat <i>Vice Chancellor</i>
1030-1130 Hours	Keynote Speaker Topic: Targeting inflammation in management of childhood malnutrition: a research perspective	Prof. Peter Melby <i>Keynote Speaker</i>
1130-1200 Hours	Plenary: Panel Discussion and Q & A Session	Moderator: Dr. Moses Mogesi
1230-1300 Hours	Participant Interaction and Poster Observation	All participants
0100-1400 Hours	LUNCH BREAK	
	PRESENTATIONS	
1400-1415 Hours	Abstract 1: Hospital-Wide Multicomponent Interventions to Improve Hand Hygiene Adherence Among Healthcare Workers in A Rural Hospital in Kenya: A Quality Improvement Program	Tabitha Muchendu <i>Kijabe Hospital</i>
1415-1430 Hours	Abstract 2: Breaking the Chain: Integrated Active Surveillance and Focused Interventions for Nosocomial Infection Reduction in a Rural Teaching and Referral Hospital	Argwings Chagwira <i>Kijabe Hospital</i>
1430-1445 Hours	Abstract 3: Antimicrobial Susceptibility Patterns Observed In <i>Staphylococcus aureus</i> Isolated In Wound Samples In Machakos Level 5 Hospital	Patricia Muema <i>Machakos County</i>
1445-1500 Hours	Question & Answer session	Moderator: Pius Mathi

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TIME		PRESENTER
	PRESENTATIONS	
1500-1515 Hours	Abstract 1: Long-term Survival and Quality of Life of Using Self-administered Modified Oral-to-Gastric Tube Feeding: A Case Study from Rural Kenya	Dr Hellen Kihoro <i>Kijabe Hospital</i>
1515-1530 Hours	Abstract 2: Trends in Maternal Mortality and Pregnancy- Related Delays in Machakos County: A 2018-2024 Analysis	Dr Nasirumbi Magero <i>Machakos County</i>
1530-1545 Hours	Abstract 3: Antibiotic waste disposal practices in pharmacy Outlets in Nakuru County	Joan Chelang'at <i>Kabarak</i>
1545-1600 Hours	Question & Answer session	Moderator: Dr Sam Mulongo
	PRESENTATIONS	
1600-1615 Hours	Abstract 1: Anthropometric Assessment of Nutritional Status among Women of Reproductive Age Using Hormonal Contraceptives in Nyeri County, Kenya: A Comparative Baseline and Endline Analysis	Purity Langat <i>Kabarak</i>
1615-1630 Hours	Abstract 2: A Systematic Review to Evaluate the Association between Maternal Nutrition Knowledge and Child Nutrition Status in Low- and Middle-Income Countries	Joy Maina <i>Kabarak</i>
1630-1645 Hours	Abstract 3: Nutrition knowledge of caregivers and feeding practices of children 6-59 months in rural Kajiado central, Kenya	Phylis Waruguru <i>Kabarak</i>
1645-1700 Hours	Question & Answer session	Moderator: Dr. Michael Walekhwa
1700-1710 Hours	Day One Closing Remarks	Prof. Pamela Kimeto Dean SMHS
DAY TWO PRESENTATIONS WEDNESDAY 14TH, 2025		
0730-0830 Hours	Registration & Tea	Secretariat
0830-0840 Hours	Devotion & opening prayer	Rev. Justus Mutuku
	PRESENTATIONS	
0840-0855 Hours	Abstract 1: Determinants of cervical cancer screening uptake among women aged 25-49 years attending Migori County Referral Hospital.	Joyce Nyangolo <i>Kabarak</i>
0855-0910 Hours	Abstract 2: Nutrition knowledge of caregivers, Childcare Practices and Nutrition Status of Children (6-59 Months) In Nanyuki Day Care Centre	Cherono Vivianne Leting <i>Kabarak</i>
0910-0925 Hours	Abstract 3: Clinicians' Knowledge, Attitude and Practice Towards Rheumatic Heart Disease Prevention in Bomet County, Kenya	Annete Akinyi <i>Kabarak</i>

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TIME		PRESENTER
0925-0935 Hours	Question & Answer session	Moderator: Dr. Wesley Bor
	PRESENTATIONS	
0935-0950 Hours	Abstract 1: Factors Influencing Adherence to HIV Post-Exposure Prophylaxis Among Healthcare Workers at AIC Kijabe Hospital	Boaz Othiambo <i>Kabarak</i>
0950-1005 Hours	Abstract 2: Factors Affecting Timing of Emergency Referral of Women in Labour from Outlying Healthcare Facilities to Kapsowar Mission Hospital, Elgeyo-Marakwet County	Tadeo Katuramu <i>Kabarak</i>
1005-1020 Hours	Abstract 3: How have health care facilities and pregnant women in low and middle income countries adopted to the WHO eight contact antenatal care model? A systematic review protocol	Judy Kithaka <i>Kabarak</i>
1020-1030 Hours	Question & Answer session	Moderator: Shadrack Bett
1030-0100 Hours	CHAPEL SESSION	ALL participants
0100-0200 Hours	LUNCH BREAK	
	PRESENTATIONS	
0200-0215 Hours	Abstract 1: Nutrition Knowledge, Attitude and Nutritional Status of Adolescent Girls (13 – 18 Years) Attending Public Mixed Day Secondary Schools in Gilgil Sub-County, Nakuru, Kenya	George Ndichu <i>Kabarak</i>
0215-0230 Hours	Abstract 2: Dietary Practices and Nutritional Status of Children 6–59 Months in Kajiado Central, Kenya.	Mercy Ngetich <i>Kabarak</i>
0230-0245 Hours	Abstract 3: Mental Health And Associated Factors Among Adolescents And Young Adults Living With Hiv Attending Kericho County Referral Hospital Comprehensive Care Centre	Rither Langat <i>Kabarak</i>
0245-0255 Hours	Question & Answer session	Moderator: Phyllis Waruguru
	PRESENTATIONS	
0255-1510 Hours	Abstract 1: A Quantitative Analysis Of Determinants Of Medications Adherence Among Hypertension Patients Attending Selected Rural Hospitals In Kenya.	Constan Cheramboss <i>Kabarak</i>
1510-1525 Hours	Abstract 2: Harnessing technology for efficient diagnosis of latent TB: Comparison IGRA based LIASON XL and manual ELISA among high risk groups in Kenya	Josephat Tonui <i>Kabarak</i>
1525-1535 Hours	Abstract 3: The Critical Role of Nutrition In Achieving Universal Health Coverage: A Documentary Review	Chepkwony Peter <i>Kabarak</i>

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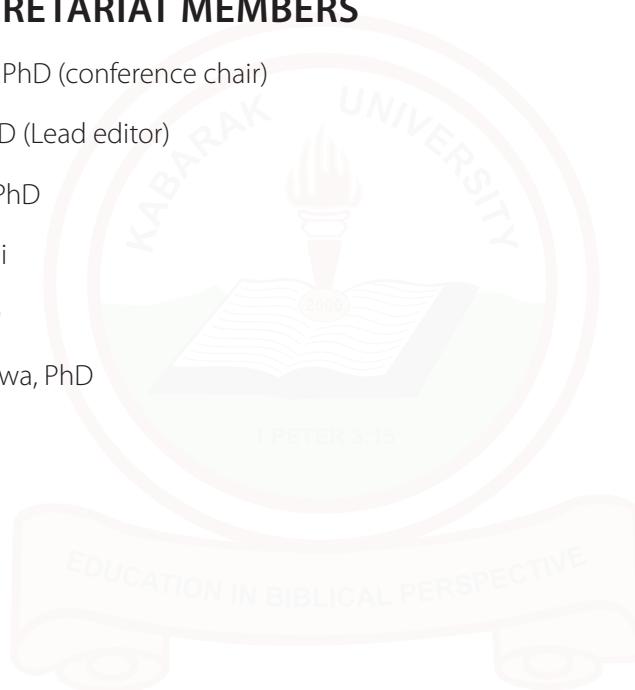
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TIME		PRESENTER
1535-1545 Hours	Abstract 4: Dietary Knowledge, Complementary Feeding Practices, and Nutrition Status of Children Aged 6–23 Months in Siaya County, Kenya	Ayoma Kambona Oscar
1545-1600 Hours	Question & Answer session	Moderator: Dr Fredrick Oginga
1600-1620 Hours	Closing remarks	Pamela Kimeto Dean SMHS

SCHOOL OF MEDICINE AND HEALTH SCIENCE

CONFERENCE SECRETARIAT MEMBERS

1. Dr Josephat Tonui, PhD (conference chair)
2. Dr Fiona Maiyo, PhD (Lead editor)
3. Dr Sam Mulongo, PhD
4. Dr Jonathan Nthusi
5. Dr Wesley Bor, PhD
6. Dr Michael Walekhwa, PhD
7. Mercy Singoei
8. Samuel Kingi
9. Dominic Abungu
10. Helmut Khol
11. Purity Langat
12. Dominic Kiprotich
13. Philip Towett
14. Caroline Kipkoros (RIO Office)



Anthropometric Assessment of Nutritional Status among Women of Reproductive Age Using Hormonal Contraceptives in Nyeri County, Kenya: A Comparative Baseline and Endline Analysis

Purity Lan'gat

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

ABSTRACT

Globally, there are 1.9 billion Women of Reproductive Age (WRA) between 15 to 49 years of age of which more than 1.1 billion of these WRA use family planning methods. The use of hormonal contraceptive in Kenya is widely preferred by most women in the reproductive age with 47.9% of them being on injectables, 18.2% on implants and 12.1% on oral pills. Despite the high rates in favor of hormonal contraceptives, there is paucity of data on how these hormonal contraceptives can affect the nutrition status of the women. Understanding the nutritional implications of contraceptive use is critical for public health programming. This study assessed the nutritional status of women of reproductive age (WRA), aged 18–49 years, in Nyeri County, Kenya, at baseline and six months later (endline), focusing on anthropometric indicators: Body Mass Index (BMI), waist circumference, and weight change. Using a two-stage comparative cross-sectional study design, data were collected from 114 WRA at baseline and 104 at endline. Women were categorized into hormonal contraceptive users, non-hormonal users, and non-users. Results show the mean age of the participants was 26.01 ± 7.46 years ranging from 20 to 48 years, with the majority (46.2%) being between 20–29 years old. Almost half (50.9%) of the women were married or living with a sexual partner. Majority were Christians with 64.9% being Protestants and 28.1% Catholics. Most of the participants were on contraceptives (68.3%). The participants were further categorized based on the type of contraceptive used where 36.0% were on hormonal and 32.5% were on non-hormonal contraceptives. About third (31.6%) were not on any contraceptives. Most, (29.0% and 19.4%) of participants, reported changes in menses and weight as side effects associated with hormonal contraceptives. There was no significant difference for those obese using BMI ($p=0.076$) and those with excess weight using WC (0.087) at both baseline and at endline. Key variables such as age, marital status, and income were found to influence contraceptive use and health outcomes. A follower of catholic religion was 1.8 (OR=1.83; $p=0.032$) times more likely not to use contraceptives than those who were in other religions. Married women were 2.3 (OR=2.30; $p=0.041$) times more likely to use contraceptives compared to unmarried women ($p=0.025$) ($p > 0.05$). However, hormonal contraceptive users showed a higher but statistically insignificant increase in body weight and waist circumference, potentially indicating early trends toward adiposity. These findings suggest that while short-term hormonal contraceptive use may influence body composition, changes in nutritional status measured by anthropometric indicators require longer-term follow-up or more sensitive body composition tools. The study highlights the importance of integrated family planning and nutrition services for women in reproductive health programs.

Keywords: Contraceptive use, nutritional status, anthropometry, BMI, waist circumference, women of reproductive age, Kenya

Nutrition Knowledge, Attitude, and Nutritional Status of Adolescent Girls (13–18 Years) Attending Public Mixed Day Secondary Schools in Gilgil Sub-County, Nakuru, Kenya

George Ndichu Munjuga¹, Miriam A. Muga (PhD)², Michael Walekhwa (PhD)³

²Department of Human Nutrition and Dietetics, Kabarak University

³Department of Biomedical Sciences, Kabarak University

ABSTRACT

The main objective of this study was to determine the association between nutrition knowledge, attitude, and nutritional status among school-going adolescent girls. The study was conducted in 34 public mixed day secondary schools in Gilgil Sub-County, targeting girls aged 13–18 years. A total of 420 girls were selected from six sampled schools using a stratified random sampling method. An observational cross-sectional study design was employed, and quantitative data were collected using structured questionnaires and anthropometric tools. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the data. Logistic regression was applied to assess the association between socioeconomic variables, nutrition knowledge, attitude, dietary practices, and nutritional status at a 0.05 level of significance. The sample was evenly distributed by age, with the majority (77.8%) residing in rural areas. Most of the girls (86.2%) had a healthy nutritional status based on BMI, while 13.8% were malnourished. A positive nutritional attitude was significantly associated with a higher likelihood of having a healthy nutritional status (OR = 3.333; 95% CI: 1.519–7.313), whereas nutrition knowledge showed no statistically significant effect. Based on these findings, the study concludes that nutritional attitude significantly influences the nutritional status of adolescent girls, while nutritional knowledge does not. The study recommends that policies and programs should prioritize cultivating positive nutritional attitudes among school-going adolescent girls.

Keywords: Nutrition knowledge, attitude, nutritional status, adolescents, girls, Gilgil

Factors Influencing Adherence to HIV Post-Exposure Prophylaxis Among Healthcare Workers at AIC Kijabe Hospital

¹Boaz Odhiambo Omenda, ¹Patrick Asaava, and ¹Pete Halestrap.

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ABSTRACT

Healthcare workers (HCWs) are at risk of HIV infection due to occupational exposure, making adherence to post-exposure prophylaxis (PEP) crucial in preventing HIV transmission. This study explored the barriers and benefits to PEP adherence among HCWs at AIC-Kijabe Hospital and identified mechanisms to improve adherence.

It was a phenomenological qualitative research design that used semi-structured interviews to collect data from a purposive sample of 35 HCWs. The study was conducted in AIC-Kijabe Hospital. Data were collected through face-to-face interviews with HCWs who reported exposure to HIV and were initiated on PEP. Key informant interviews were also conducted, those of whom were Chronic Care Clinic (CCC) team members. The guide used was pilot-tested at AIC-Kijabe Naivasha Medical Centre to enhance its reliability and validity. The interviews were audio-recorded, with the consent of the participants. Deductive thematic analysis was employed to analyze the interview data. The transcribed interview was coded and categorized into themes and sub-themes. NVivo data analysis software was used to facilitate the organization and analysis process. Several barriers to PEP adherence were identified and they were based on Personal/ Individual drug-related, organizational, and interpersonal factors. Personal factors included forgetfulness, acceptance of stigma, and low-risk perception. Drug/Medicine-

related were fear of side effects, and logistical Challenges e.g. pill too big to swallow. Organizational/Institutional Factors included process inefficiencies and institutional Stigma. Interpersonal factors like lack of social support The Perceived Benefits noted by the participants included a reduction of the risk of HIV transmission to HCWs, their spouses, and patients. It also gave them peace of mind. Adherence to PEP was also viewed as an ethical duty and obligation.

Dietary Practices and Nutritional Status of Children 6–59 Months in Kajiado Central, Kenya

Mercy Ng'etich

Department of Human Nutrition and Dietetics, Kabarak University

ABSTRACT

Nutritional status is the state of an individual's health determined by nutrient intake and utilization. Malnutrition remains a significant public health concern in Kajiado County, particularly among children between 6–59 months. Introducing complementary feeding at six months in addition to breastmilk ensures that the child transitions to a diverse and nutrient-dense diet thereby impacting their nutrition status. A cross-sectional study design was used. The study participants were 198 caregiver-child pairs. Dietary practices were assessed based on breastfeeding rates, minimum dietary diversity scores (MDD), minimum meal frequency (MMF), and minimum acceptable diet (MAD). Anthropometric measurements were used to determine weight-for-height (WHZ), weight-for-age (WAZ), and height-for-age (HAZ) z-scores. The association between dietary intake and nutritional status was analyzed using multinomial logistic regression and chi-square tests. Majority of the children (30.3%) scored a 4 on the dietary diversity scale, while 25.8% scored a 3. Only 17.7% achieved the recommended MMF and 4.5% of children met MAD criteria. Children with higher dietary diversity were found to be 39% less likely to be mildly wasted (OR = 0.61, $p = 0.02$) and 2.23 times more likely to have normal nutritional status (OR = 2.23, $p = 0.01$). MMF adherence was significantly associated with reduced wasting ($p = 0.019$), as well as MDD ($p=0.02$) while no significant associations were found between MAD and nutritional status ($p > 0.05$). Poor dietary diversity and inadequate MMF contribute to malnutrition among children in Kajiado Central. Targeted interventions promoting diverse diets and frequent meals are crucial for improving child nutrition in this region.

Keywords: Dietary Practices, 6-59 months, Nutrition Status

Clinicians' Knowledge, Attitude and Practice Towards Rheumatic Heart Disease Prevention in Bomet County, Kenya

Annette Akinyi

ABSTRACT

Rheumatic Heart Disease (RHD), a complication of Beta-Hemolytic Streptococcal infection of the throat and skin is one of the leading causes of cardiovascular mortality among young adults in the world. There is increased global pressure for SSA countries to embrace prevention strategies with a particular focus being on secondary prevention. This study thus aimed to evaluate the Clinician's Knowledge, Attitude and Practice towards the prevention of Rheumatic Heart Disease in Chepalungu, Bomet County.

A cross-sectional study of 98 clinicians in peripheral facilities in Chepalungu, Bomet County conducted over four (4) months. Data was collected using a questionnaire focusing on demographics and assessments of knowledge, attitude and practice. The demographic data was analyzed through tables and charts while knowledge, attitude

and practice data was analyzed through Odds ratios and correlated through Chi-Square tests.

The majority of the participants had good knowledge, attitude and practice. However, key aspects of knowledge, attitude and practice, that inform patient management, scored poorly across the cadres. 4% of the participants had good knowledge of the diagnostic tests for bacterial pharyngitis as well as the duration of antibiotic prophylaxis. Medical officers were more likely than clinical and nursing officers to agree that there is a relationship between overcrowding and low socioeconomic status and RHD prevalence. There was a statistically significant relationship between knowledge and practice (CI 95% $p= 0.024$) and between attitude and practice (CI 95% $p= <0.001$).

The study reveals generally positive attitudes and practices towards ARF and RHD management but also highlights significant knowledge gaps. These findings underscore the need for continued medical education and benefit of ensuring access to treatment guidelines across all levels of healthcare facilities.

Keywords: Rheumatic Heart Disease, Acute Rheumatic Fever, Group A Streptococcus

Nutrition knowledge of caregivers, Childcare Practices and Nutrition Status of Children (6-59 Months) In Nanyuki Day Care Centre

Cherono Vivianne Leting

Department of Human Nutrition and Dietetics, Kabarak University

ABSTRACT

Childcare practices greatly impacts the nutritional status and overall health of children, mostly in early childhood. This study looked into childcare practices in daycare centers in Nanyuki, Laikipia County, and their effect on children's nutrition. Due to the increasing reliance on daycare centers by working parents, getting to know the quality of care and nutrition provided is essential. Despite national progress in child health, malnutrition remains a concern, with 13% of children under five in Laikipia being stunted and 7% underweight (KDHS, 2022). The study employed a phenomenological approach to explore nutrition knowledge of caregivers, childcare practices, and the nutrition status of children aged 6–59 months in Nanyuki Day Care Centre, Kenya. Purposive sampling was used to select approximately 15–20 caregivers, parents, and key informants, ensuring diverse insights. Data collection involved in-depth interviews, focus group discussions, key informant interviews, and non-participant observations, using pretested semi-structured questionnaire and checklists. Thematic analysis was conducted using NVivo software to identify emerging patterns related to caregivers' nutrition knowledge, childcare practices, and children's nutrition status. Ethical approval was obtained, and informed consent ensured participant confidentiality.

The study found that nutrition knowledge among caregivers was generally low, as they had never received formal training on nutrition matters. Meals were primarily starch-based, consisting mainly of potatoes, rice, and porridge, with minimal protein, fruits, and vegetables. Hygiene standards varied across daycare centers, with inadequate water supply and poor waste disposal contributing to diarrheal cases among children. Income was a key determinant of feeding practices, with lower-income caregivers struggling to provide a diverse and nutritionally adequate diet. Despite these challenges, the majority of children exhibited a normal nutritional status, suggesting some resilience in dietary sufficiency. These findings highlight the need for caregiver nutrition training, improved hygiene measures, and economic support programs to enhance childcare practices and nutrition outcomes.

Keywords: Nutrition Knowledge, childcare practices, nutrition status, childcare practices

Determinants of cervical cancer screening uptake among women aged 25-49 years attending Migori County Referral Hospital

Joyce Boke¹, Kevin Abidha¹, Sam Mulongo¹,

¹Kabarak University Nakuru, Kenya.

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Background: Cervical cancer, a preventable disease, is the fourth most common cancer affecting women worldwide and the leading cause of death resulting from cancer in Kenya. Despite free cervical cancer screening in all health facilities, the screening uptake remains low at 19 % compared to the World Health Organization's target of 70%. Lack of awareness of risk factors and symptoms for cancer and lack of screening may lead to late diagnosis and poor prognosis. Hence, understanding the determinants of cervical cancer screening is important in informing targeted interventions.

Methods: The study will use a cross-sectional design and will be conducted in Migori County, specifically the Migori County referral hospital, between August 2024 and August 2025. The participants will be women aged 25-49 years. A simple random sampling will be used to obtain a sample of 243 women aged 25-49 years seeking services at the Mother-child, family planning, post-natal, and Comprehensive Care Clinic (CCC) clinics. Data will be collected on socio-demographic factors, attitudes towards cervical cancer, and cervical cancer screening utilization. The chi-square test and descriptive analysis will be calculated using SPSS version 28 to assess the association and level of significance. The study's findings will be utilized by health professionals to provide education on cervical cancer screening services, adhering to established guidelines and recommendations. Researchers have proposed new screening approaches, including HPV testing and self-collected samples, alongside efforts to strengthen existing methods such as VIA and VIL. By understanding the determinants of screening uptake, the adoption of these novel approaches can be enhanced.

Keywords: Cervical cancer, Screening, Women,

Nutrition knowledge of caregivers and feeding practices of children 6-59 months in rural Kajiado central, Kenya

Phyllis Waruguru

Department of Human Nutrition and Dietetics, Kabarak University

ABSTRACT

Childhood malnutrition remains a critical public health concern, particularly in developing countries. This study explores the nutrition knowledge of caregivers and its association with feeding practices among children aged 6-59 months in the Maasai community of Rural Kajiado Central, Kenya. Traditional practices and cultural norms significantly influence daily life in this community, emphasizing the need to understand caregivers' nutritional knowledge and its association with child-feeding practices. A cross-sectional mixed study design was employed, with data collected from caregivers (N=294) using a pre-tested questionnaire. Nutrition knowledge was assessed through a nutrition test, and feeding practices were evaluated using a 24-hour recall and dietary diversity score. Focus Group Discussions provided qualitative insights. Data were analyzed using SPSS V26, Nutri-survey software, and qualitative thematic analysis. Caregivers demonstrated high nutrition knowledge (60.9% high, 3.4% very high), yet feeding practices revealed challenges. Most children consumed three meals daily, but

dietary diversity was limited, focusing on cereals, milk, and fats. Despite high knowledge levels, there was no significant association between nutrition knowledge and feeding practices ($p>0.05$). Improving dietary diversity requires addressing infrastructural barriers alongside nutrition education. The study emphasizes the complex interplay between nutritional practices, socio-economic factors, and educational opportunities, highlighting the need for holistic interventions. Infrastructure support is crucial to improving food accessibility in rural areas. Nutrition education alone may not suffice to enhance feeding practices and nutritional status.

Keywords: Caregivers, Children, Feeding practices, Nutrition Knowledge

A Quantitative Analysis of Determinants of Medications Adherence among Hypertension Patients attending selected Rural Hospitals in Kenya.

Constan Cheramboss
Kabarak University

ABSTRACT

This research proposal aims to analyze the determinants of medication adherence among hypertensive patients in selected rural hospitals in Kenya. With the rising prevalence of hypertension and its impact on cardiovascular morbidity and mortality, there is a pressing need for research that addresses the unique challenges faced in rural settings, as most existing studies focus only on urban populations. Employing a correlational research design, this study will target adult hypertensive patients who have been on pharmacological treatment for a minimum of three months at Iten County Referral Hospital and AIC Kapsowar Mission Hospital. A systematic sampling method will be used to establish a representative sample, determined using Cohen's guidelines. Data will be collected through a modified validated questionnaire that includes the Medical Adherence Rating Scale (MARS-10) and additional items pertaining to determinants of adherence defined by the WHO. The instrument will undergo pre-testing for reliability, with trained research assistants administering the questionnaire during outpatient visits following ethical protocols. Statistical analyses will involve both descriptive and inferential statistics, conducted using SPSS version 20 to identify significant predictors of medication adherence. Ethical guidelines will include securing informed consent from participants and ensuring confidentiality throughout the study. This research intends to provide critical insights into the multifactorial determinants of medication adherence among hypertensive patients in rural Kenya, ultimately guiding the development of targeted healthcare strategies and interventions. Improving understanding of these determinants is essential for enhancing medication adherence and health outcomes in this underserved population.

Keywords: Hypertension, Medication adherence, Determinants, Correlational research design, Medical Adherence Rating Scale (MARS-10)

Factors Affecting Timing of Emergency Referral of Women in Labour from Outlying Healthcare Facilities to Kapsowar Mission Hospital, Elgeyo-Marakwet County

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ABSTRACT

Background: Maternal and perinatal mortality is high world-wide. Seventy percent of maternal mortality world-wide occurs in sub-Saharan Africa. In Kenya, maternal mortality ratio (MMR) is 355 per 100,000 livebirths while neonatal mortality rate (NMR) is 21 per 1,000 livebirths. Globally, Sustainable Developmental Goal (SDG) target 3.1 is to reduce MMR to less than 70 per 100,000 live births by 2030. Kenya aims to achieve universal healthcare coverage and reduce MMR and NMR by 77% and 59% respectively by 2030. To achieve these aims, obstetric referral system needs to be improved. An ineffective referral system hinders access to timely emergency obstetric care (EmOC) for women in labour with complications especially in rural areas where 69% of Kenya's population resides. There is a gap in knowledge about factors affecting timing of emergency obstetric referral in Elgeyo-Marakwet County. The broad objective of the study is to determine factors affecting timing of emergency referral of women in labour by care providers from outlying lower-level healthcare facilities to Kapsowar Mission Hospital (KMH). The specific objectives of the study are: to identify the indications for emergency referral of women in labour, to determine factors affecting the decision to refer, to determine factors affecting the implementation of emergency referral, and to determine factors affecting communication between the referring and receiving care providers in Elgeyo-Marakwet County.

Methods: The study will be qualitative, phenomenological design using in-depths interviews with two purposively selected obstetric care providers at each of the eight outlying lower-level health facilities that refer women in labour to KMH in Elgeyo-Marakwet County.

Results: Results will be reported upon analysis of the collected data in the study.

Keywords: Referral system, emergency obstetric care, timing of emergency referral

Breaking the Chain: Integrated Active Surveillance and Focused Interventions for Nosocomial Infection Reduction in a Rural Teaching and Referral Hospital

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ABSTRACT

Background: Over 70% Nosocomial infections (NIs) burdening the healthcare systems are preventable (1-3). We developed and are implementing an integrated active surveillance system at AIC Kijabe Hospital to identify, track, and reduce hospital-acquired infections (HAIs) using multicomponent interventions.

Methods: A hospital-wide Longitudinal surveillance with focused interventions that began in October 2024. 24-hour automated data extraction system for patients at least on their 3rd day of admissions and on a new antibiotic using SQL programming and n8n automation softwares. Data management done using CODA, for NIs screening by nursing RAs and data entry on RedCap. Multidisciplinary team designed the implementation strategy after SWOT analysis. CDC-National Healthcare Safety Network (NHSN) NIs definitions and classifications adopted for surveillance. Continuous data analysis using STATA, and monthly reports shared through Quality department.

Results: 100% of data extracted correctly mapped the patient and new antibiotic. Of **786** patients screened, **75** qualified HAIs were identified across multiple departments, with the highest prevalence in medical-surgical units (35%), the pediatric wing (20%), and ICU (17%). NIs distribution by type revealed predominance of surgical site infections (SSIs, 32%), bloodstream infections (BSIs, 16%), and hospital-acquired pneumonia (HAP, 13.3%). Microbiological analysis of 37 culture-positive cases showed *Escherichia coli* (38%), *Klebsiella* species (16%), and *Staphylococcus aureus* (16%) as predominant pathogens among the laboratory-confirmed NIs. Quick outbreak response and HH QI have shown a drop in NIs from 4.1/100 admissions in October to 2.2/100 admissions in March 2024. Data collection and screening reduced from 3.0 hours during the manual collection to 0.5 hours on average.

Conclusions: Active surveillance with focused, data-driven interventions have improved outbreak detection and reduced NIs rates. Streamlining automation and data workflows also enhanced efficiency and surveillance feasibility. Currently designing device associates NIs QI programs aimed at achieving a 20% quarterly reduction in NIs rates.

Keywords: Nosocomial Infections, Active Surveillance, Infection Prevention and Control, Antimicrobial Resistance

Factors Contributing to Long-term Survival and Quality of Life Using Self-administered Modified Oral-to-Gastric Tube Feeding: A Case Study from Rural Kenya

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ABSTRACT

Gastrostomy tube feeding is a life-sustaining intervention for patients with dysphagia, and improves quality of life(QOL). This case documents a 38-year-old male from rural Kenya who developed grade-V dysphagia following occupational chemical exposure in 2008, resulting in esophageal stricture, and is living with HIV(23years). It highlights factors contributing to long-term survival and quality of life. A comprehensive case evaluation performed via a one-on-one interview with the patient after obtaining informed consent. Interview was audio-recorded, digitally transcribed, and manually edited for accuracy. Patient history, examination and investigations demonstrated oesophageal obstruction with stents in-situ. QOL measured via anthropometric and functional status assessment using adopted WHO-QOL tool. Video documentation of the patient's self-developed feeding technique recorded. The patient has maintained adequate nutritional status (BMI of 19.6 kg/m²), and ordinary facial form. Demonstrates functional and socio-economic independence. The patient independently developed a modified feeding technique where food is thoroughly masticated, then manually transferred via syringe into the G-tube, preserving gustatory satisfaction while maintaining adequate nutrition.

This technique resolved persistent diarrhea previously experienced with conventional blended feeds. After six failed esophageal stent placements, he received a permanent gastrostomy tube in 2011.

Patients with G-tubes experience reduced QOL, with studies reporting limitations in social functioning, employment, and psychological well-being. They cite that they then develop other concerns as a result of the G-tube placement. HIV-positive individuals with nutritional challenges face compounded difficulties in maintaining functional independence. In stark contrast, this case demonstrates exceptional adaptation and QOL outcomes, with the patient achieving socio-economic independence, maintaining normal BMI, and developing an innovative feeding technique that addresses multiple domains of well-being. Patient-centered adaptations to medical interventions can improve outcomes in resource-limited settings, suggesting that conventional approaches to gastrostomy feeding may benefit from incorporating patient-developed modifications that preserve sensory experiences and social aspects.

Keywords: Gastrostomy tube; dysphagia; chemical injury; quality of life; enteral nutrition; patient adaptation; resource-limited setting; HIV management; functional status

Hospital-Wide Multicomponent Interventions to Improve Hand Hygiene Adherence Among Healthcare Workers in A Rural Hospital in Kenya: A Quality Improvement Program

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ABSTRACT

Healthcare hand hygiene (HH) compliance in Kenya remains low, 3-27% (1). Non-adherence contributes to Nosocomial Infections (NIs), which prolong hospital stays and increase mortality (2). At Kijabe, the adherence rate was low, at 24%. This Continuous Quality Improvement (CQI) program aims to improve adherence among staff from 24% to >80% in 6 months. Mixed-methods approach employed. A blinded observational study conducted in December 2024 to establish baseline compliance. Participatory action research implemented with multidisciplinary stakeholders to map current processes, conduct root-cause analysis, and co-design interventions and sustainability plan. Seven FGDs done among staff to identify adherence barrier. 8-member multidisciplinary QI team formed to analyze data and develop targeted interventions using the A3 improvement framework. Multicomponent interventions planned, employing PDSA methodology, over six months, each addressing system and process specific gaps. So far, Four PDSA cycles addressed training, infrastructure audits, monitoring via WHO toolkit, and internal communication of compliance data. Data analyzed using Excel and visualized on a custom-designed IPC data dashboard, and on a run-chart. Over two months, hand hygiene adherence improved from 24% to 45% across the hospital. Sensitization and education reached 1,003 healthcare workers and 345 non-clinical staff. Performance data were shared via staff meetings and WhatsApp, recognizing high-performing departments and sensitizing those with low compliance.

Multicomponent interventions increase HH adherence. Multidisciplinary teams are essential for effectively co-designing context-appropriate interventions. Sustainable improvement efforts require dedicated IPC teams, with additional unit-based champions serving as a cost-effective strategy. Connecting HH compliance to patient outcomes, i.e AMR risks, may drive meaningful behavior change. While initial results are promising, extended observation periods are necessary to determine whether improvements represent sustainable behavior change. Sustainable feedback systems enhance accountability and further improve adherence long term.

Keywords: Adherence, Hand hygiene, Quality Improvement, Nosocomial Infections.

The Critical Role Of Nutrition In Achieving Universal Health Coverage: A Documentary Review

Chepkwony Peter

ABSTRACT

Achieving universal health coverage (UHC) remains a global health priority, necessitating a comprehensive understanding of the multifaceted determinants of health. Nutrition emerges as a critical component influencing the attainment of UHC, intertwining with various facets of healthcare delivery and outcomes. This research paper explores the pivotal role of nutrition within the context of achieving UHC, examining its impact on both individual health and population-level outcomes. Key factors explored include the influence of nutrition on disease prevention, management, and overall health promotion. By ensuring adequate nutrition, communities and nations can mitigate the burden of communicable and non-communicable diseases, thereby enhancing resilience against health crises. Moreover, nutrition plays a crucial role in maternal and child health, influencing early childhood development and long-term health trajectories. The paper also delves into the socio-economic implications of nutrition within the framework of UHC. Addressing malnutrition and food insecurity not only improves health outcomes but also fosters economic productivity and social equity. Effective nutrition interventions are integral to breaking the cycle of poverty and promoting sustainable development. Policy considerations are highlighted, emphasizing the need for integrated approaches that incorporate nutrition-sensitive interventions into broader health systems. Strategies such as fortified food programs, nutrition education, and regulatory frameworks are evaluated for their effectiveness in achieving equitable access to nutritious food and health services. The research draws on evidence from diverse global contexts, illustrating successful interventions and identifying gaps that hinder progress towards UHC. By synthesizing current knowledge and empirical data, this paper offers insights into how optimizing nutrition can contribute to the realization of UHC goals worldwide.

Keywords: Universal health coverage, nutrition, health outcomes, disease prevention, health equity

A Systematic Review to Evaluate the Association between Maternal Nutrition Knowledge and Child Nutrition Status in Low- and Middle-Income Countries

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ABSTRACT

While maternal nutrition knowledge is hypothesized to positively influence child nutritional status, empirical evidence remains inconclusive, particularly across diverse global contexts. This uncertainty is further compounded when the primary beneficiaries, such as children, lack autonomy in dietary decision-making. Therefore, further systematic analysis is warranted to elucidate the association between maternal nutrition knowledge and child nutritional outcomes in low- and middle-income countries. Child malnutrition is a significant public health issue globally. It comprises undernutrition (stunting, wasting, and underweight), vitamin and mineral deficiencies, obesity, and resultant non-communicable diseases linked to diet. Child nutrition status is influenced by various factors, including socioeconomic status, demographics, environmental conditions, maternal knowledge in infant and young child feeding, water, sanitation, and hygiene (WASH) practices. A literature search was done in PubMed, Elsevier, and Science Direct, to identify relevant published articles from 2016 to 2024. Ten original research articles were analyzed. Eight studies revealed substantial correlations between maternal nutrition-related knowledge and several child nutritional status across various study designs and geographic locations. Two studies showed no correlation between maternal nutrition-related knowledge and child nutrition status. These findings suggest that maternal nutrition-related knowledge alongside other factors such as WASH practices have a major impact on child nutrition status. The results emphasize the need for addressing the maternal knowledge gaps through effective education programs and interventions to achieve positive child nutrition status and reduce the burden of malnutrition.

Keywords: Child nutrition outcomes, Maternal nutrition knowledge, Child malnutrition, Child nutritional status.

Mental Health and associated factors among adolescents and young Adults Living with HIV attending Kericho County Referral Hospital Comprehensive Care Centre

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ABSTRACT

Background: 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. Diagnosing mental health conditions in the context of HIV is an ongoing challenge to clinicians and researchers, because of the complex biological, psychological, and social factors associated with the HIV illness.

Objective: 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.

Providing mental health care to AYLWH is dependent on early identification through screening. Despite ART guidelines indicating well on when screening should be done, it is not clear to what extent recommendations for screening and referral are adhered to. Conducting mental health assessments as part of the standard package of care for PLWH across the HIV care continuum is critical to treatment outcome. The study findings will help various stakeholders in offering more support towards addressing mental health issues. The study's findings can serve as a baseline for future research and information in public health policies and programs aimed at improving mental health among adolescents and young adults living with HIV.

Keywords: Mental Health, Depression, Anxiety, HIV, ART

How have health care facilities and pregnant mothers in low- and middle-income countries adapted to the WHO eight contact antenatal care model? A systematic review protocol

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ABSTRACT

Objective: To examine and map the existing evidence on adaptation of the WHO 8 contact antenatal care model among pregnant women and health care facilities in LMIC with the aim of identifying the main barriers, facilitators and implementation challenges.

Introduction: In 2016, the WHO introduced 8 contact visit model for ANC in settings with high perinatal morbidity and mortality, aiming to enhance positive pregnancy experiences and improve perinatal outcomes. Uptake of this model has varied widely across healthcare settings, especially in LMIC. This variation forms the basis for this systematic review, which seeks to explore how healthcare facilities in these regions are adapting to the 8 contact model

Inclusion criteria: This review will encompass all studies related to the WHO 8 Contact Visit model for ANC in LMIC, focusing on how pregnant women and health care facilities are adapting to this framework. Studies examining antenatal care practices prior to the introduction of the policy guideline, studies that informed the development of the guideline and studies conducted in high-income countries will be excluded due to the significant heterogeneity of ANC guidelines in these regions.

Methods: Key information sources for this review will be searched from databases e.g Cochrane database of systematic review, Pub Med, CINAHL, HINARI, OVID and EMBASE. Data will be extracted using a data extraction tool. Screening and eligibility of the studies using PRISMA and the quality of the studies involved will be assessed using The Quality Assessment Tool. Anderson Framework will be used to report findings

Evaluation of Knowledge and Skills Retention on Basic Emergency Obstetric and Newborn Care (Bemonc) among Skilled Birth Attendants in selected Counties in Western Kenya

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ABSTRACT

Background: Introduction: Maternal mortality remains a pressing concern in the African Region, with preventable deaths occurring every two minutes globally. Despite concerted efforts to mitigate this issue, the African Region continues to grapple with a high maternal mortality ratio, particularly in sub-Saharan Africa. The Liverpool School of Tropical Medicine (LSTM) has been training skilled birth attendants with the aim of reducing maternal deaths to 70 per 100,000 live births by 2030. However, Kenya still reports a high maternal death rate of 441 deaths per 100,000 deliveries, prompting an investigation into whether knowledge and skills deterioration after training contribute to this persistently high mortality rate.

Methods: The study used a mixed-method approach. For the quantitative aspect, a cross-sectional design was utilized, employing statistical techniques such as descriptive statistics and inferential analysis. For the qualitative component, thematic areas for the focused group discussions were conducted to explore factors influencing knowledge and skills retention among skilled birth attendants. The thematic area covered topics such as institutional support, training effectiveness, workplace challenges, and personal experiences.

Results: In the study, 150 skilled birth attendants participated, with a majority being female (69.8%), aged between 30-34 years, and holding a diploma-level education (59.7%). For quantitative study, over half of the respondents fell below the recommended 70% retention rate for knowledge on Basic Emergency maternal and neonatal obstetric care, with knowledge retention at 36.9%, skills retention at 58.64%, and partograph completion at 52.9%. For qualitative study, institutional factors such as staff turnover and referral delays emerging as prominent themes.

Conclusion: Findings reveal sub-optimal knowledge and skills retention rates, particularly in managing critical obstetric emergencies, exacerbated by institutional challenges such as high staff turnover and referral delays.

Keywords: skilled birth attendants, knowledge, skills, Basic emergency maternal and neonatal care, retention

Factors Contributing to Birth Asphyxia in Neonates at Naivasha Sub-County Hospital

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ABSTRACT

The World Health Organization (2023) has identified neonatal asphyxia as being the third leading cause of early newborn deaths globally, accounting for approximately 24% of neonatal mortality. (Workineh et al., 2020)

found out that 24% of African births are affected by asphyxia. In Kenya, birth asphyxia accounts for 29% of deaths of neonates, and Nakuru County has a perinatal death rate (15/1000 live births) that surpasses WHO recommendations ((Ngare et al., 2020). The WHO recommends a maximum of 12 fatalities per 1000 live births and suggests interventions such as drying, stimulating, and warming newborns with birth asphyxia (Moshiro et al., 2019) A retrospective cross-sectional study design, using secondary data collected from the hospital's Newborn Unit records was used with the target population of asphyxiated neonates with APGAR scoring < 7 within the first minute of extra uterine life.

The highest incidence was observed in those aged 13-25 years (38%), married (65%), with secondary education (60%), and who attended their first ANC visit (56%). Employment status also played a role, with unemployed mothers contributing to 37% of cases. Foetal factors, such as low birth weight (55.83%), premature gestation (57.5%), vertex presentation (63.33%), and male sex (60.42%), significantly increased the risk. Maternal-obstetric factors, including PROM (42%), meconium-stained liquor (53%), infections (33%), pre-eclampsia (44%), and prolonged labour (28%), were prevalent, though not significantly different in their impact. Statistical analysis revealed significant differences among socio-demographic and foetal factors, while maternal-obstetric factors showed no significant variation in their contribution to birth asphyxia.

Birth asphyxia remains a significant concern, with key contributors identified as socio-demographic factors (maternal age 13-25 years, marital status, low antenatal clinic attendance, and unemployment), maternal obstetric factors (premature rupture of membranes, meconium-stained amniotic fluid, vaginal delivery, and pre-eclampsia), and foetal factors (low birth weight, prematurity, and male gender).

Keywords: Birth asphyxia, Apgar score, neonatal mortality, maternal and foetal factors.

Effect of Umbilical Cord Clamping Time on hemoglobin Status of Infants, Randomized Control Trial in Longisa County Referral Hospital, Bomet County Kenya

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ABSTRACT

Background: Although the benefits of delayed umbilical cord clamping on haemoglobin are documented globally including by the World Health Organization (WHO), Kenya and many Sub-Saharan African Countries continue to record variation in the clamping time. These variations may have significant effect on iron levels and nutrition status of infant. Objective: This study sought to establish the effects of umbilical cord clamping time on the infant nutritional status at 6 months at Longisa County Referral Hospital. Methods: The study was a randomized controlled trial design. Mother-infant pairs were randomized into the experimental and control groups A sample size of n=204 of mother-infant pair was enrolled in both study arms. Recruitment of the study participants took place at onset of labour pains for all eligible mothers admitted to labour and delivery ward. The experimental group involved clamping the umbilical cord between 3-5 minutes after delivery while the control group involved clamping of umbilical cord as per the standard routine practice soon after delivery in the health facility. Infant weight, length and haemoglobin was assessed at baseline, at 6 weeks and at 6 months. Data was collected by use of a structured questionnaire. Data was analyzed using Stata Statistical software and the Micro Soft Excel. Comparison of effect of umbilical cord clamping time on length, height and haemoglobin at 6 weeks and at 6 months was done using un paired student t-test at 95% CI, significance set at P<0.05. Two-sample t-test, the results for weight, length and hemoglobin was determined. Research permit and ethical approval was obtained from respective authorities.

Results: The mean weight at six (6) months of life for the control group of the study was 7.41 ± 0.65 kgs while for the experiment group the mean weight was 8.51 ± 0.60 kgs. The mean length at 6 months for the control group was 56.91 ± 14.36 cm and the experiment group were 58.18 ± 16.72 cm. The mean haemoglobin levels for control group was 11.35 (11.08-11.62) and for the experimental group 12.22 (11.95-12.49).

Conclusion: Delayed umbilical cord clamping is beneficial for improved infant hemoglobin level and the nutrition status. In addition, delayed umbilical cord clamping time improves the infant weight gain in the first six (6) months of life. There is need to develop guideline for implementation of delayed umbilical cord clamping. The recommendation for further research is to study child survival and long-term health and cognitive effects of nutrition and care during the first 1,000 days.

Keywords: Effect, Umbilical Cord Clamping, Time, Nutrition Status, Infant

Harnessing technology for efficient diagnosis of latent TB: Comparison IGRA based LIAISON XL and ELISA QFT among high risk groups in Kenya

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ABSTRACT

Background: Latent Tuberculosis Infection (LTBI) refers to a condition in which individuals are infected with *Mycobacterium tuberculosis* but do not exhibit clinical symptoms of active tuberculosis. Estimates suggest that approximately one-quarter of the world's population nearly 2 billion people are infected. This large reservoir of latent infection poses a critical challenge to tuberculosis control, as LTBI can progress to active disease, particularly in individuals with compromised immunity. We compared the performance of the LIAISON XL automated chemiluminescent immunoassay system with the manual ELISA-based QuantiFERON-TB Gold Plus (QFT-Plus) assay in detecting LTBI.

Methods: The study was conducted between April & August 2023. The study population comprised of healthcare workers (HCWs), household contacts of bacteriologically confirmed TB patients, prisoners and prison warders, and people living with HIV. Participants were recruited from two sites: Nakuru County Referral Hospital and Kabarak University Hospital. 5 ml of venous blood was collected in Lithium Heparin Tubes and later 1ml was added into four (4) QFT tubes of the 4 tubes for analysis on both platforms. Ethical approval was obtained from the Kabarak University Research Ethics Committee (KUREC) under approval number 090423, and a research permit by NACOSTI (approval no. NACOSTI/P/23/25740). Additionally, administrative approval was sought before from the Nakuru County before commencement of the study.

Results: The LIAISON XL system exhibited a sensitivity of 98.20% (95% CI: 93.67–99.50%) and a specificity of 96.69% (95% CI: 90.72–97.33%) when compared to the manual ELISA method. Additionally, the kappa statistic for agreement between the two assays was 0.93, signifying almost perfect agreement. These findings suggest that the LIAISON XL system not only provides high diagnostic accuracy but also enhances efficiency and standardization in LTBI screening, making it a promising tool for large-scale testing, particularly in high-burden

and resource-limited settings.

Conclusion: The almost perfect agreement ($\kappa = 0.93$) between the two assays supports the reliability of the LIAISON XL system as an alternative diagnostic tool for LTBI screening. This automated system could significantly improve the efficiency of LTBI diagnosis, given its high throughput and accuracy. The platform holds promise for expanding LTBI screening programs, ultimately contributing to TB control in high-risk populations.

Key words: LTBI, IGRA, LIAISON XL, ELISA, Sensitivity, Specificity

Predictors of Early Onset Neonatal Sepsis: A Retrospective Study at a Tertiary Care Hospital in Kenya

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ABSTRACT

Background: Early onset neonatal sepsis (EONS) is a major public health concern in neonates. EONS is defined as sepsis occurring within the first 48-72 hours of life. Majority of sepsis-related deaths occur in developing countries. We evaluated the predictors of early-onset sepsis among neonates at Nakuru County Level Five Hospital, a tertiary care facility.

Methods: We performed a retrospective case control study to assess predictors of early onset neonatal sepsis in neonatal cases at Nakuru County level 5 hospital from January 2023 to December 2023. The study further assessed the impact of predictors on the sociodemographic and economic lives of mothers. We sought ethical clearance from Kabarak (KUREC approval NO:010324) and NACOSTI permit (NACOSTI/P/24/35984) for the study.

Results: A total of 33 cases were reviewed. The results show that majority of EONS cases were male neonates (60%) compare to females. Prematurity and low birth-weight were the key predictors of early onset neonatal sepsis ($p < 0.01$). The median age for the mothers was 29 years with more than half having a low socio-economic status. Key maternal predictors were urinary tract infections, preterm, pre-labor rupture of membranes and chorioamnionitis being associated with increased cases of EONS. The onset of the majority of EONS observed was within 24 hours with more than two-thirds (85%) of cases associated with Gram negative bacteria *Escherichia coli* accounting for more than two-thirds.

Conclusion: Evidence shows that early-onset neonatal sepsis is strongly associated with maternal obstetric, sociodemographic and neonatal factors. There is need to strengthen hospital infection prevention (IPC) to alleviate EONS and associated neonatal mortality.

Key words: Early onset neonatal sepsis (EONS), Predictors, Nakuru Level 5 Hospital.



Kabarak University 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)



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