12TH MUHAS SCIENTIFIC CONFERENCE

THEME:

Science as a Story of Life: The Power of Research, Innovation, and Collaboration in Improving Resilient Health System.

ABSTRACT BOOK

DATE: 27-28.06.2024

VENUE: EACoECVS, MUHAS Mloganzila Campus

In commemoration of the late Dr. Ali Hassan Mwinyi

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

12TH MUHAS SCIENTIFIC CONFERENCE

THEME:

Science as a story of Life: The Power of Research, Innovation, and collaboration in improving Resilient Health system.

THE EAST AFTRICAN CENTRE OF EXCELLENCE FOR CARDIOVASCULAR SCIENCES;

MUHAS MLOGANZILA CAMPUS, DAR ES SALAAM

JULY 27TH – 28TH 2024

ABSTRACT BOOK

Conference Secretariat

Directorate of Research, Publications and Innovations

MUHAS

P. O. Box 65001

Tel: 255 22 2152489

Email: conference@muhas.ac.tz

Table of Contents

THURSDAY, 27TH JUNE 2024

ORAL PRESENTATION

SUBTHEME: Traditional and Alternative Medicine, Drug Discovery, and Vaccine Development

1. Evaluation of Antibacterial Activity of Usnic acid-Serine derivative

Authors: Nzagi Nyakirangani, Paul Malaba, Edward Mayila, Furaha James

Affiliation: Muhimbili University University of Health and Allied Sciences

Background: Resistance to antimicrobials has rapidly increased to necessitate the need for new antimicrobial agents. Natural products remain indispensable during drug discovery. Usnic acid is a secondary metabolite natural in lichen species and has been found to exhibit moderated antibacterial activity, nevertheless, it has been reported to have serious side effects such as liver problems.

Objective: To enhance antibacterial activity and reduce toxicity of Usnic acid by chemically coupling it to polar compounds, like amino acids.

Methodology: Chemistry, Usnic acid was reacted with L-serine under basic conditions. The reaction progress was monitored by Thin Layer Chromatography until completed. Biological Activity: Broth Microdilution was used to determine the MIC of usnic acid and the newly obtained usnic acid derivative.

Results: The desired compound was obtained at a moderate yield, 67%. The usnic acid and its derivatives has shown to have antibacterial activity for both tested microorganism at different MIC. The newly obtained derivative has more activities compared with the usnic acid.

Conclusion: This work also shows that naturally occurring usnic acids are promising lead compounds for the synthesis of derivatives with more favorable properties against bacteria.

Recommendation: Further structural elucidation studies should be carried out to identify the structure of new formed compound. Further studies on the other bioactivity of the new formed compound should be carried out.

2. Therapeutic Potential of Zanha Africana (Radlk.) Exell: Antimycobacterial Activity and Safety Evaluation

Author: Alphonce Ignace Marealle, Michael Qwarse, Ramadhani S.O. Nondo, Alex John Bulashi, Francis Machumi, Alfredi Alfred Moyo, Joseph Sempombe, Paul Malaba, Matthias Heydenreich, Rogers Mwakalukwa, Matobola Joel Mihale, Mainen Julius Moshi

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Zanha africana (Radlk.) Exell plant extracts are commonly utilized in Tanzania and other counntries for treating conditions associated with HIV and AIDS, including tuberculosis (TB). In Tanzania, it is listed among the most frequently traded plant species for medicinal use in different marketplaces. However, limited literature exists regarding its antimycobacterial properties and safety profile.

Objective: This study aimed to evaluate Z. africana ethanolic extract for safety and antimycobacterial activity.

Methodology: The antimycobacterial activity of the crude root ethanolic extract was assessed using the broth microdilution method against various non-pathogenic mycobacteria strains including Mycobacterium aurum (MA), Mycobacterium madagascariense (MM), and Mycobacterium indicus pranii (MIP). Bioassay-guided fractionation was employed to isolate the active compounds. The safety profile of the crude extract was investigated through cytotoxicity assay on peripheral blood mononuclear cells (PBMCs) and the brine shrimp lethality test.

Results: The 80% ethanolic extract of Z. africana demonstrated activity against all tested non-pathogenic mycobacteria. The antimycobacterial activity of ethanolic extract of the stem bark was 625 μg/ml, 313 μg/ml and 125 μg/ml against MA, MM, and MIP respectively. The most potent fraction was the ethyl acetate fraction, from which two active compounds were isolated: proanthocyanidin A2; Compound (1) and its monomer epicatechin, Compound (2). Compound (1) exhibited higher antimycobacterial activity compared to compound (2) with minimum inhibitory concentrations (MICs) of

Conclusion: This study demonstrates that Z. africana extracts and the isolated compounds possess antimycobacterial activity. This provides evidence supporting the traditional use of Z. africana extracts for TB management.

Recommendation: Further research is recommended to comprehensively evaluate the efficacy and safety of the plant constituents using different models.

3. Ethnomedical, phytochemistry and pharmacology of Coleus barbatus (Andrews) Benth. ex G. Don (Lamiaceae)

Author: **Flavian B. Sanga**, Derick A. Mtafya, Siri A. Abihudi, Mourice N. Mbunde, Zaituni Msengwa

Affiliation: Institute of Traditional Medicine, Muhimbili University of Health and Allied Sciences.

Background: Coleus barbatus (andrews) benth. ex g.don (Lamiaceae) is a medicinal plant distributed in Eritrea to East and Central Africa, the Arabian Peninsula, the Indian Subcontinent to South-Central China. This plant is used for the treatment of stomachache, respiratory issues, cardiac problems, female

reproductive health and fever as evidenced by phytochemical and pharmacological studies.

Objective: To summarise botanical description, taxonomy and geographic distribution, ethnomedicinal uses, phytochemical composition, pharmacological uses, and toxicological properties of Coleus Barbatus.

Methodology: The literature on the botanical description, taxonomy, distribution, ethnomedical, phytochemical and pharmacological applications of *C. barbatus* from 2010 to 2023 is collected, analyzed, and summarized in this study. The cited papers on *C. barbatus* were searched using the scientific search engines such as Google Scholars, PubMed, Scopus and Science-Direct.

Results: *Coleus barbatus* offers a wide range of potential uses in local and traditional medicine, including the treatment of respiratory ailments, heart disorders, female reproductive health issues, and fever. Regarding its pharmacological effects, numerous traditional uses of *C. barbatus* have been proven by in-vitro or in-vivo pharmacological research, including antibacterial activities, anticonvulsant activity, inhibition of HIV enzymes, and treatment of cardiovascular diseases and alcohol intoxication. *Coleus barbatus* is rich in various types of secondary metabolites such as alkaloids, glycosides, saponins, steroids,

Conclusion: The study's findings demonstrated a correlation between the traditional medical use and the pharmacological effects of *C. barbatus*. Nevertheless, it is important to conduct pharmacodynamic investigations in order to substantiate their effectiveness in medical applications.

Recommendation: Further studies to identify specific active compounds will aid in understanding the mechanisms underlying their various biological activities. Additionally, exploring the efficacy of C. *barbatus in vivo* will provide valuable insights into its potential as a therapeutic agent. The diverse pharmacological activities observed underscore the importance of continued investigation into the health benefits of *C. barbatus* and its potential contributions to medicine.

4. Sun-Protecting Factor (SPF), Antioxidant Activity, and Phytochemical composition of Entada abyssinica.

Authors: **Cleopatra Justine Shonyella**, Judith Kalikwendwa Constantine,

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Sunscreen products play a vital role in protecting the skin from the harmful effects of ultraviolet (UV) rays, mitigating sunburn, and reducing the risk of skin damage and cancer. With concerns surrounding the environmental impact and biosecurity of synthetic-based sunscreens, there is a growing interest in exploring plant-based alternatives. This study focused on Entada abyssinica, traditionally recognized for its skincare properties, yet unexplored for its potential in sun protection.

Objective: The objective of the study was to evaluate the sun-protecting factor (SPF), antioxidant activity, and phytochemical composition of Entada abyssinica.

Methodology: The plant material, comprised roots, stems, and leaves, which were collected from Morogoro region and underwent authentication at the University of Dar-es-Salaam. Subsequently, 96% ethanol was employed through cold maceration to prepare extracts. The determination of Sun Protection Factor (SPF) values for the extracts involved measuring absorbance differences within the ultraviolet radiation B (UVB) range (290-320nm). The assessment of antioxidant activity was carried out using the 2,2-Diphenyl-1-picrylhydrazyl (DPPH) assay.

Results: The results highlight Entada abyssinica as a promising candidate for the development of effective bio-sunscreens. SPF values of the root extract (EAR) and stem bark extract (EAS) were comparable, at 35.00 and 35.12, respectively, surpassing that of the leaf extract (EAL) at 28.61. These, SPF values fall within the recommended range set by the US FDA (SPF 15-50). Additionally, EAR and EAS exhibited significantly higher DPPH-scavenging activities, phytochemical analysis revealed the presence of flavonoids, phenols, saponins, and tannins.

Conclusion: Entada abyssinica emerges as a promising bio-sunscreen candidate, with its notable antioxidant activity attributed to phenolic compounds. Its potential applications extend to the cosmetic and pharmaceutical industries, warranting further research and development efforts to harness its properties effectively. Further studies regarding the formulation of sunscreen are required to come up with a finished herbal sunscreen product.

Recommendation: Further studies on the formulation, efficacy, and safety of Entada abyssinica are recommended. Also, identification and isolation of individual compounds that are responsible for the high SPF of E. abyssinica. This is because such compounds may be used as lead molecules to formulate effective sunscreen products for human use.

5. Analysis of Expression of Cross Kingdom Mirna (Mir1260a) In Cooked and Uncooked Rice Strains

Author: Joel John Rutta

Affiliation: St. Joseph College of Health and Allied Science

Background: Edible plant-derived nanoparticles, such as Exosome, contain a high concentration of endogenous substances and can be employed as disease carriers. MicroRNAs (miRNAs) are short, highly conserved non-coding RNAs that play a role in gene expression control in most eukaryotes.

Objective: To analyse of expression of cross-kingdom miR-1260a in cooked and uncooked rice strain Shreyas M022

Methodology: The project started with the extraction of exosomes from red rice (Shreyas M022) using Polyethylene glycol (PEG6000). Following that, the Total Exosome RNA kit was used to isolate miRNA from the exosome. Later, we utilized reverse transcriptase to create complementary DNA (cDNA) from the acquired miRNA in order to amplify the targeted gene using qRT-PCR.

Results: The isolated RNA from cooked rice had an absorbance of 1.87nm, while uncooked rice had an absorbance of 1.77nm. The cDNA quality for the endogenous genes CRR and URR was 1.85 and 1.67nm, respectively, whereas the specific gene CRRs and URRs were 1.82 and 1.74nm. Following amplification, both cooked and uncooked rice showed strong expression of miRNA 1260a, which was supported by statistical analysis.

Conclusion: The study revealed that due to high stability of miRNA in cooked and uncooked condition we can directly use the exo-miRNA from unprocessed rice or processed which represent a potential novel approach to nanomedicine. Moreover, exosomes can be engineered for tissue targeting, drug loading and gene therapy.

Recommendation: Recently, therapeutic strategy of exosomal delivery has been explored due to their properties of low immunogenicity, nano-scaled size and ability to cross cellular barriers. This is showing promises to the future medicine and drug delivery i encourage to invest more in this as an alternative drug delivery system for those chronic diseases.

SUBTHEME: Maternal, Newborn, Child and Adolescent Health

6. Women's Perceived Barriers to Accessing Comprehensive Post Abortion Care Services at Muhimbili National Hospital.

Authors: **Emmanuel Gibbe Bulabo**, Ali Said, Lilian Mnabwiru.

Affiliation: Muhimbili University of Health and Allied Science

Background: The incidence and mortality rates of unsafe abortions increase in areas with legal restrictions against safe abortion such as Tanzania. Lack of access to comprehensive post-abortion care (cPAC) exacerbates this issue. The health system in Tanzania recommends providing cPAC services to all women with any type of abortion and its complications. Limited information is available on the perceived barriers that women face in accessing cPAC services at tertiary hospitals.

Objective: This study aims at exploring women's perceived barriers to accessing comprehensive post-abortion care services at Muhimbili National Hospital, Dar es

Methodology: The study used phenomenological qualitative methods to collect data from women who had experienced abortion complications at Muhimbili National Hospital. In-depth interviews with open-ended questions and audio recordings were used for data collection. Respondents were asked about interpersonal, social, and organizational barriers to seeking cPAC. The qualitative data was analysed thematically.

Results: Participants in the study expressed a lack of understanding of cPAC and worries about surgical complications. They also cited traditional beliefs, and limited support from the community and healthcare providers as obstacles to

accessing cPAC. Additionally, abortion clients felt stigmatized by healthcare providers lacking the necessary skills. The facility was reported to have extended waiting times and inadequate medical supplies for providing cPAC services.

Conclusion: Abortion clients face personal, community and system barriers in accessing cPAC services at MNH hospital.

Recommendation: Addressing these barriers will improve access and potentially decrease morbidity and mortality in this safe abortion-restrictive environment.

7. **Maternity ICU Admissions Indications and Outcomes among Critically ill Women at MNH Dar es salaam**

Author: **Dr Pathan M Pathan**, Dr Belinda Balandya, Dr Furaha August

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Maternal mortality rate varies across countries, with developed nations experiencing lower rates compared to developing countries, especially in Sub-Saharan Africa despite the Sustainable Development Goals (SDGs) aimed at reducing maternal mortality rates. Most deaths result from preventable and treatable obstetric causes. The management of critically ill obstetric women who require ICU care is a crucial component of obstetric services, especially in tertiary hospitals such as Muhimbili National Hospital (MNH).
Objective: To determine prevalence, indications, maternal outcomes, and mortality predictors among critically ill obstetric patients admitted at maternity ICU at MNH.

Methodology: Data for this analytical hospital-based cross-sectional study was collected from the labor ward and maternity ICU registry. Descriptive statistics were used, including frequencies, proportions, percentages, and median with range and charts. The primary outcome variable was the critically ill obstetric patients' outcome upon exiting from the maternity ICU. Multiple regression analysis was used to determine hazard ratios for the participants' indications of admission to maternity ICU, demographics, and clinical characteristics.

Results: A total of 187(0.7%) women were admitted, 137/187(73.3%) died, and sepsis was the leading cause of death. The median age was 33 years and the IQR of 28-38 years. The majority (92.2%) were referral cases, more than half (65.8%) were postpartum, (and 51.9%) had vaginal delivery. Hypertensive diseases of pregnancy (HDP) were the most common indication prompting ICU admission (26.7%). Among women whose Indications for ICU admission were sepsis, respiratory complications, and cardiac complications were more likely to die.

Conclusion: Maternity ICU admissions contributed to < 1% of all maternity admissions, hypertensive diseases of pregnancy (HDP) were the most common indication prompting ICU admission followed by respiratory and neurological complications, 73.3% of patients admitted to maternity ICU died and the most

common cause of death was sepsis followed by pneumonia and cardiac diseases.

Recommendation: A different study design, like a case-control or cohort study, is needed to understand the association between risk factors for maternity ICU admission, interventions, and their impact on maternal outcomes. It is also important to improve record keeping by using electronic databases and files, improve documentation by clinicians, and provide staff training in infection prevention to reduce rate of sepsis.

8. Predictors Of Post-Discharge Mortality Among Children 5-14years Admitted to Pediatric Wards at MNH, JKCI And MOI.

Authors: **Elton Roman Meleki**, Stella Mongella, Francis Fredrick Furia.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: It is estimated that over 1 million children aged 5-14 years died in the year 2017, with 55% of the deaths occurring in Sub-Saharan Africa. Mortality of children following hospital discharge is reported to be high ranging between 1-18% and may exceed in-hospital mortality in lower-income countries. In Tanzania, there is a paucity of data on post-discharge mortality rate and its predictors among children aged 5-14 years.

Objective: To determine the post-discharge mortality rate and its predictors among children aged 5-14 years admitted to MNH, JKCI, and MOI

Methodology: A prospective observational cohort study was conducted among children aged 5-14 years admitted to pediatrics wards at MNH, JKCI, and MOI. Data was collected using a structured questionnaire. Post-discharge follow-up was carried out using phone calls at 1-, 2-, and 3-months following discharge. Data was analyzed using SPSS version 25 utilizing Cox regression, and survival was displayed through Kaplan-Meier curves

Results: The PDM was 2.9%. The predictors of post-discharge mortality were noted to be the duration of symptoms >2 weeks (HR 4.7, 95 CI 1.5-14.73), leukocytosis (HR 7.49, 95 CI 1.97-32.03), and discharge against medical advice (Hazard Ratio (HR) 55.4, 95 CI 4.46-393.11). Children with HIV disease (HR 9.83, 95 CI 2.3-21.45) and chronic kidney disease (HR 18.26, 95 CI 1.39.26) were also found to have higher PDM. Pneumonia and malignancies were major causes.

Conclusion: The post-discharge mortality in children aged 5-14 years is generally low in this cohort. Children with duration of symptoms >2 weeks, leukocytosis, HIV, CKD, and those discharged against medical advice were found to have a higher post-discharge mortality. More than 50% of the post-discharge mortality occurred in the first month, out of which more than half died at home.

Recommendation: We recommend children with chronic conditions should be scheduled up for hospital visit within first two weeks after they are discharged. A plan to reduce the number of patients leaving against medical advice needs to be developed to reduce the mortality. Further research is recommended to elucidate the biological pathways through which leukocytosis contributes to post-discharge mortality.

9. Brain Anomalies and Factors Associated with Severe Spina Bifida at Muhimbili Orthopaedic Institute and Muhimbili National Hospital, Dar es Salaam, Tanzania: A Hospital-Based Neuroimaging Study

Authors: **Ummehani Dossajee**, Mboka Jacob, Mary Kamuzora, Hamisi K. Shabani

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Spina bifida (SB) is a neural tube defect that occurs as a result of incomplete closure of the neural tube during the fourth week of embryonic development. It is the most common and most complex non-fatal neurological birth defect. This can result in a range of physical and neurological impairments. Despite its prevalence and impact, there is little data on SB neuroimaging patterns and associated factors.

Objective: The main aim of this study was to explore spina bifida patterns, brain anomalies and associated factors.

Methodology: From June 2022 to February 2024, an extensive cross-sectional study was conducted at Muhimbili Orthopedic Institute and Muhimbili National Hospital-Upanga. Maternal-child clinical data, intra-operative Endoscopic Third Ventriculostomy (ETV), and brain and spine MRI data of 90 children with spina bifida were collected and analyzed using SPSS version 26. The analysis employed descriptive statistics, binary, and multinomial logistic regression, with a significance level set at a p-value of < 0.05.

Results: All children had SB aperta, with most having myelomeningocele (86.7%). Chiari malformation (93.3%) and hydrocephalus (88.9%) were the most prevalent brain anomalies. Children with an upper SB lesion level and larger defect span had a higher occurrence of abnormal corpus-callosum, cavum-septum-pellucidum, and cerebellum (p-value<0.05). Male sex and maternal anemia were associated with higher odds of having an upper SB lesion level and a larger defect span. The presence of intraventricular septations on MRI correlated well with turbid CSF on ETV.

Conclusion: There was significant diversity in associated brain anomalies among spina bifida patterns. A higher occurrence of anomalies is noted with an upper SB lesion level and a larger defect span. Maternal anemia and male sex are independent risk factors for severe spina bifida. Brain MRI may help predict intra-operative ETV findings.

Recommendation: Findings from this study highlight the importance of detailed CNS evaluation in children with spina bifida. The association of severe forms of spina bifida with maternal anemia underscores the importance of pre-conceptual folic acid in the prevention of neural tube defects in Tanzania. Further studies on the cognitive and functional outcomes of children with spina bifida are recommended.

10. The prevalence, outcomes, and factors associated with caesarian section among women delivered in Njombe region

Authors: **Jonhas Masatu Malija**, Rose Mpembeni, Rogath Saika Kishimba, Ismail Habib

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS), Tanzania Field Epidemiology and Laboratory Training Program (TFELTP, Reproductive and Child Health Directorate (RCH), Ministry of Health (MoH), Tanzania.

Background: The caesarean section (CS) rate in Tanzania is a public health concern, particularly in the Njombe region, which reported a 29% rate in the year, exceeding the World Health Organization's recommended threshold of 15%. Excessive CS utilisation carries significant maternal and neonatal health risks. There is limited data on CS prevalence, outcomes, and associating factors for CS in the Njombe region.

Objective: We aimed to investigate CS prevalence, outcomes, and associated factors among women delivering in the Njombe region from March to May 2024.

Methodology: We used facilities-based cross-sectional study using quantitative methods. Multistage cluster sampling techniques was employed to interview 567 post-delivery women. Data was collected by Kobo Collector toolbox and analysed using Stata version 15. Bivariate and multivariate analyses were employed, with significance set at $p < 0.05$.

Results: The prevalence of CS in the Njombe region was 46%, with 57% fetal deaths among post-caesarean women. Factors associated with CS were ANC visits 13+ weeksGA (aOR = 1.25, p = 0.031), height 4.1 kg (aOR = 1.87, p = 0.002).

Conclusion: CS was associated with social demographic factors, ANC-related factors like ANC visits, height < 150 cm, chronic medical conditions, Health facilities factors like Referral, facilities ownership, Enrolled Nurses, NHIF financing method, and baby sex, baby weights, twins, GA and danger signs during pregnant period.

Recommendation: Improvement of ANC services, reduce NHIF package for caesarian section procedures and employ more qualified midwives to have quality ANC, labour and delivery services, which may reduce the CS rate.

11. Adherence to Iron Deficiency Interventions among Pregnant Women Attending Antenatal Clinics in Ubungo Municipality.

Author: **Glory Benjamin**, Hussein Mwanga, Ezra J. Mrema, Nchang'wa Nhumba, Paul Sabuni, and Wakoli Albert

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Iron deficiency anemia among pregnant women is a pressing public health concern, despite efforts to provide iron supplementation of 30 mg - 60 mg per day throughout pregnancy. Poor adherence to these interventions could

impede the reduction of anemia, which currently affects 57.1% of women in Tanzania.

Objective: This study investigated the level of adherence to the interventions and the associated factors among pregnant women attending antenatal clinics.

Methodology: This cross-sectional study used a systematic random sampling technique to obtain 503 participants from the surveyed clinics. Interviews were conducted by using interviewer-administered questionnaires. Data were analysed using Stata version 17. The study employed binary and multivariable logistic regression analysis to determine factors associated with adherence to iron deficiency interventions.

Results: In this study, 72% of participants were non-adherent to the interventions. In multivariable regression analysis, participants who forgot to take their iron tables on most days (AOR = 2.35; 95% CI: 1.23-4.48) and those who reported that not enough time was spent on education and counselling during antenatal clinic visits (AOR= 3.87; 95% CI:1.08-13.84) were more likely to be non-adherent to iron deficiency interventions.

Conclusion: The study concludes that the level of adherence to iron deficiency interventions in Ubungo municipality is low. Among the factors found to affect adherence to iron deficiency interventions includes a tendency to forget intake of iron tablets, acceptance of modifications to dietary practices, and lack of enough time in providing health education and counselling.

Recommendation: Improving the quality of health education and counselling, strengthening access to a full course of iron tablets, and improving dietary modification strategies for pregnant women, could increase adherence to iron deficiency interventions.

12. Neonatal Resuscitation Practice Among Nurses In Delivery Suites At Regional Referral Hospitals In Ruvuma

Authors: **Felix P. Amani**, Edwin Lugazia, Salehe Mrutu.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Birth asphyxia remains a leading cause of early newborn mortality in resource-limited countries. Despite interventions, many sub-Saharan African countries still experience neonatal deaths due to inadequate resuscitation skills among healthcare providers. Timely and adequately performed resuscitation can prevent more neonatal deaths from birth asphyxia.

Objective: The study evaluated the neonatal resuscitation practice and associated factors among nurses in delivery rooms at Ruvuma region referral hospitals

Methodology: A cross-sectional study was conducted. A total of 60 nurses were conveniently sampled. Neonatal resuscitation practice was first assessed on a newborn mannequin, followed by an assessment of knowledge level using a standard observation checklist and self-administered questionnaires,

respectively. Proportion was used to grade knowledge level and quality of resuscitation practice. Fisher's exact test and logistic regression analyses measure the association between variables with the level of significance considered at p-value < 0.05.

Results: Out of 60 nurses evaluated for neonatal resuscitation practice, only 7(11.7%) had adequate resuscitation practice. Availability of essential equipment (AOR=18.26; CI: 1.92-174.01; P=0.012) and formal training (AOR = 7.35; CI: 1.00-53.82; p=0.05) were strong predictors of adequate newborn resuscitation practice

Conclusion: Our study generally found inadequate skills in neonatal resuscitation among nurses working in delivery suites at two regional referral hospitals in Ruvuma in relation to available standard guidelines for neonatal resuscitation. Presence of adequate essential resuscitation equipment and having attended a formal training prior, were the independent variables associated with adequate newborn resuscitation skills.

Recommendation: To improve resuscitation practice, regular refresher trainings and supportive supervision are needed to inculcate hands on skills to nurses through the use of more realistic mannequins to simulate resuscitation practice. Health facilities should strive to procure appropriate resuscitation equipment that will have to be easily accessible, well utilized and maintained for the better outcome of resuscitated newborns.

13. Neonatal Care Units Availability and Functionality in Tanzania, Far Below 2025 Global Targets: Cross-sectional Study.

Authors: **Felix A. Bundala**, Benjamin A. Kamala, Robert Moshiro, Godfrey Guga, Paschal Mdoe, Hege Ersdal, Siren Rettedal, Nahya Salim

Affiliation: Muhimbili University of Health and Allied Sciences.

Background: The neonatal mortality rate (NMR) in Tanzania has remained stagnantly high for decades. In 2021/22 the NMR was 24 per 1,000 live births. To half the current NMR by 2030, the WHO recommends by 2025, at least 80% of districts have a functioning Neonatal Care Unit (NCU) and use continuous positive airway pressure (CPAP) for respiratory support.

Objective: To describe the availability and functionality of NCUs in 127 CEmONC facilities in Tanzania between December 2020 to March 2021.

Methodology: Cross-sectional study in 127 CEmONC facilities from 33 districts in five high-volume regions (Manyara, Tabora, Geita, Shinyanga, Mwanza). Data was collected using structured tools in regional referral and district hospitals and CEmONC health centers. Descriptive analysis used R Program version 4.2.1. P-value <0.05 was considered statistically significant. Neonatal Intensive Care Unit/High Dependency Unit (NICU/HDU), General Neonatal Ward (GNW), and Kangaroo Mother Care (KMC) defined a national minimum recommendation for NCU.

Results: Of 127 CEmONC health facilities, 48% had at least one NCU ward and only 3.1% met minimum national recommendations. 45% of NICU/HDU and 69% of GNW, 27% of KMC wards were not functioning as there were zero admission beds. CPAP was in 8% of health facilities. Neonatal admission and mortality rates were lower in facilities without functioning NICU/HDU and admission registers than the opposite (p=0.001).

Conclusion: Very few facilities had NCU, yet half were not functioning. Fewer admissions and mortalities in facilities without functioning NICU/HDU and admission registers, suggest inadequate documentation and signify substantial data loss.

Recommendation: The study findings recommend for Tanzania to improve availability and NCU functionality to catch up with the Global targets by 2025. Studies to document NCU functionality and Newborn care outcome trends are advised.

14. Intimate Partner Violence Screening in Pregnant Women: Facilitators and Barriers among Health Care Workers at Mbeya Zonal Referral Hospital, Tanzania

Authors: **Rong'ora Masoya Turuka**, Andrea B. Pembe, Fadhlun M. Alwy Al-beity

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Intimate partner violence (IPV) is a significant global public health problem with one-third of women being subjected to it. Intimate partner violence occurring during pregnancy has dire consequences for maternal physical and mental health as well as for the well-being of the foetus. In 2018, Tanzania's Ministry of Health initiated IPV screening during pregnancy. However, the uptake and implementation have been slow.

Objective: To explore facilitators and barriers for IPV screening during pregnancy among healthcare workers at Mbeya Zonal Referral Hospital

Methodology: This was exploratory qualitative study using in-depth interviews with eleven purposefully selected healthcare workers at a zonal referral hospital. Interviews were audio-recorded and transcribed verbatim. Data were analysed following thematic analysis.

Results: Themes: (1) Healthcare workers' positive attributes help to initiate the screening process (3) Women and community negative attributes subvert IPV screening, (3) Institutional challenges hinder the smooth implementation of screening. Providers reported having screening tools, clear pathways for IPV screening, knowledge, training, attitudes, and clinical and social skills empower them to screen. While social-cultural norms and fear of negative consequences deter women from reporting. Furthermore, healthcare services structured to provide medical and pregnancy-related care are seldom considered.

Conclusion: These findings have significant ramifications for the organization of the healthcare system to make it fully capable of facilitating IPV screening,

empowering healthcare providers to screen for IPV more thoroughly, and enhancing cooperation between the health sector and other community advocates in managing IPV. Alongside these initiatives, there should be a concentrated effort to raise community awareness to change attitudes

Recommendation: Healthcare system at the National level should cooperate and work closely with health facilities to deal with the pointed challenges. Health facilities should develop screening guides that suit their settings. Professionals of the medical fraternity are advised to update themselves on the current IPV issues including screening guidelines instead of waiting for seminars, training and workshops."

15. Implementing the digital innovations to improve pregnancy and childbirth outcomes in the Pwani region, Tanzania

Authors: **Dorkasi L. Mwakawanga**, Sanmei Chen, Ning Ni, Miyuki Toda, Beatrice Mwilike, Yhuko Ogata, Yuryon Kobayashi, Yasuo Kawabata, Md Moshiur Rahman, Crystal L. Patil, Yoko Shimpuku

Affiliation: Muhimbili University of Health and Allied Sciences

Background: In Tanzania, 35.3% of pregnant women do not complete four antenatal care (ANC) visits. As a result, increase their risk for late detection of pregnancy-related complications which contributes to the country's high maternal mortality and stillbirth rates. Mobile fetal monitoring (Melody International Ltd. iCTG) devices and educational smartphone applications (App) can improve perinatal safety in areas with poor quality of care due to a shortage of healthcare providers.

Objective: To evaluate the impact of iCTG and smartphone Apps in improving pregnancy and childbirth outcomes in the Pwani region, Tanzania.

Methodology: This study uses a hybrid type 2 effectiveness-implementation design to test the effectiveness of an intervention package consisting of foetal heartbeat monitoring, smartphone app for health education delivery, training for healthcare providers, and a mobile ANC service. Guided by the reach, effectiveness, adoption, implementation and maintenance (RE-AIM) and consolidated framework for implementation research, we will evaluate the effectiveness of the intervention and identify the implementation barriers and facilitators.

Results: The intervention will be administered to pregnant women at 32 gestational weeks or above who attend ANC at two health centers (intervention sites) and a mobile ANC clinic in the Pwani region. The primary outcome measure is the proportion of women who achieve continuum of care with a minimum of four and above antenatal care visits. Other outcomes include detection of abnormal fetal heart rate, referrals, emergency caesarean section, pre-term deliveries, Apgar score and perinatal mortality.

Conclusion: Our findings are expected to provide evidence and inform health policymakers on how the implementation of iCTG, and smartphone app systems can be restructured to curb the burden of perinatal deaths. Positive maternal-

infant-related outcomes will save lives, impact the quality of antenatal and delivery care, and enable women to have a positive childbirth experience.

Recommendation: If our study shows positive health impacts in Tanzania, the results will provide strong evidence and valuable lessons learned for scalability of these innovative healthcare technologies in other resource-constrained settings. If results are negative, additional testing may be required before we recommend its adoption in the healthcare system to improve perinatal outcomes.

SUBTHEME: Non-Communicable Diseases, Mental Health, Surgery and Nutrition

16. Hyperglycaemia among patients on dolutegravir-based anti-retroviral therapy at Muhimbili National Hospital: prevalence and associated factor

Author: **Hosea Sanga**, Fatma Muhali, Grace Shayo

Affiliation: Muhimbili University of Health and Allied Science

Background: Dolutegravir (DTG), a second-generation integrase strand transfer inhibitor for the treatment of Human Immunodeficiency Virus (HIV) infection is renowned for its potent efficacy, minimal side effects, high resistance barrier, and broad spectrum of effectiveness. Nevertheless, there are apprehensions surrounding its potential to trigger hyperglycemia and to cause weight gain, hepatotoxicity, insomnia, nausea, and vomiting. It is unclear to what extent dolutegravir causes hyperglycemia and what factors associated with hyperglycemia

Objective: To determine the prevalence of hyperglycemia and associated factors among people living with HIV (PLHIV) on dolutegravir-based antiretroviral therapy at

Methodology: This cross-sectional study was conducted at the MNH HIV Care and Treatment Clinic. We recruited consenting HIV-infected patients aged 18 years or older on dolutegravir-based therapy for at least three months. Socio-demographic and clinical data were recorded and fasting blood glucose levels were measured. Known diabetics additionally underwent HbA1c testing to assess for their diabetes control. Data were analyzed using SPSS, employing chi-square tests and logistic regression models to identify

Results: A total of 380 participants were recruited, 69.7%were female and 8.4% were known diabetics. The mean age was 48.9SD ±11.6years, 93.7% of participants had undetectable viral loads. The prevalence of hyperglycemia was 15% (57/380). Factors significantly associated with hyperglycemia included hypertension (AOR (95%CI) = 2.73(1.30-5.75), alcohol consumption (AOR (95%CI) = 2.50(1.28-4.91), and more than 5 years duration of ART use (AOR (95%CI) = 2.33(1.01-5.34).

Conclusion: Hyperglycemia was high among PLHIV on dolutegravir, being associated with hypertension, alcohol consumption, and ART use for more than 5 years

Recommendation: It is important for clinicians in HIV care and treatment to do close follow and regular checks of blood glucose among patients on dolutegravir especially every three to six months.

17. Depression, Anxiety, and Associated Factors Among Caregivers of Children and Adolescents with Epilepsy Attending Muhimbili

Authors: **Erneus Ernest**, Rodrick Kisenge, Obrey Urio, Zameer Fakih.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Epilepsy is one of the most prevalent neurological disorders affecting 50 million people globally. The diagnosis of epilepsy has psychological impacts on the families, particularly the caregivers. The stigma associated with the disease, the economic burden of care, and the unpredictability of seizures contribute to psychological distress in caregivers. Little is known about the prevalence of depression, anxiety, and associated factors among caregivers of children with epilepsy in Tanzania.

Objective: Determine the prevalence of depression anxiety and their associated factors among caregivers of children with epilepsy attending MNH Pediatric Neurology

Methodology: A cross-sectional study was conducted among caregivers of children with epilepsy attending MNH pediatric neurology clinic between July to November 2023. Demographic data were collected using a structured questionnaire, and depression and anxiety were assessed using Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder 7 (GAD-7) tools respectively. Logistic regression was used to assess factors independently associated with depression and anxiety. P- Value less than 0.05 was considered statistically significant.

Results: 427 caregivers were enrolled with mean age of 34.25 ($\pm$ 6.82) years. The majority were female (93%), and married (78%). Depression and anxiety prevalence were both 17%, with 9% experiencing both. Factors associated with depression were child age under 5 years, epilepsy duration over 5 years, epilepsy-related injuries, and $\geq$ 3 admissions. Anxiety was associated with the child having other comorbidities, epilepsy-related injuries, $\geq$ 3 admissions, and caregiver age 41-50. Longer epilepsy duration was associated with concurrent depression and anxiety.

Conclusion: Our study revealed that depression and anxiety are common among caregivers of children with epilepsy. Most of the factors associated with caregivers' depression and anxiety were epilepsy related.

Recommendation: We recommend the Integration of mental health services in regular pediatric neurology clinics. These will offer screening for depression and

anxiety and linkage of caregivers for counselling and psychoeducation. We also recommend establishment of peer support groups for caregivers of children with epilepsy to enable proper coping mechanisms for shared challenges.

18. A Four-Year Longitudinal Study of Childhood Vaccination Trends and Supply Chain Resilience in Tanzania

Authors: **Mbonea Erick Mbwambo**, Raphael Zozimus Sangeda, Daniel James, Harrison Mariki, Mwendwa E. Mwenesi, Honesti Nyaki, Florian Tinuga, Daudi Peter Manyanga.

Affiliation: Department of Research and Development Afya Intelligence, Department of Pharmaceutical Microbiology Muhimbili University of Health and Allied Science, Ministry of Health Tanzania, Department of Universal Health Coverage, Communicable & Non-Communicable Diseases, World Health Organization Inter-Country Support Team for East and Southern African Countries, Harare, Zimbabwe.

Background: The COVID-19 pandemic has significantly disrupted healthcare systems at all levels globally, notably affecting routine healthcare services such as childhood immunizations. This study delves into the impact of these disruptions on routine childhood vaccination programs in Tanzania.

Objective: This study aimed to evaluate the impact of the COVID-19 pandemic on routine childhood vaccination programs in Tanzania.

Methodology: This study employed a quantitative approach using secondary administrative data from Tanzania's Health Ministry and other relevant organizations

Results: The study recorded a total of 32,602,734 vaccination events across the regions from 2019 to 2022. Despite declining vaccination rates in 2020, there was a notable rebound in 2021, indicating the resilience of Tanzania's immunization program. The analysis also highlighted regional differences in varying vaccination rates when standardized per 1000 population. Seasonal fluctuations were observed in the monthly vaccination rates, with BCG showing the most stable trend. Predictive modeling of BCG indicated stable and increasing vaccination coverage through 2023.

Conclusion: The findings underscore the robustness of Tanzania's childhood immunization infrastructure in overcoming the challenges posed by the COVID-19 pandemic, marked by a strong recovery in vaccination rates post-2020. We provide valuable insights into the dynamics of vaccinations during a global health crisis and highlight the importance of sustained immunization efforts in maintaining public health.

Recommendation: Based on this study's findings, we strongly recommend implementing country-specific, localized strategies to enhance childhood vaccination by mitigating disruptions during global health crises. These strategies should focus on strengthening public health infrastructure, utilizing data-driven approaches, and creating community-specific interventions.

19. Prevalence of Onchocerciasis and Epilepsy in Mahenge after a Prolonged Community-Directed Treatment with Ivermectin Programme

Authors: **Vivian Mushi**, Dan Bhwana, Isolide S. Massawe, William Makunde, Hillary Sebukoto, Willison Ngasa, Joel Sengerema, Athanas Mhina, Paul Martin, Henrika Kimambo, Winifrida Kidima, William Matuja, Josemir W. Sander, Helen Cross, Arjune Sen, Robert Colebunders, Charles R. Newton, Bruno P. Mmbando, EPInA Study Group

Affiliations: Department of Parasitology and Medical Entomology, School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania, Department of Zoology and Wildlife Conservation, College of Natural and Applied Sciences, University of Dar es Salaam, Dar es Salaam, Tanzania, Tanga Research Centre, National Institute for Medical Research, Tanga, Tanzania, Tanga Regional Referral Hospital, Tanga, Tanzania, Bumbuli District Council, Tanga, Tanzania, Department of Internal Medicine, Muhimbili National Hospital, Dar es Salaam, Tanzania, Department of Neurology, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania, Department of Clinical and Experimental Epilepsy, UCL Queen Square Institute of Neurology, Queen Square, London WC1N 3BG & Chalfont Centre for Epilepsy, Chalfont St Peter SL9 0RJ, UK, Neurology Department, West China Hospital, Sichuan University, Chengdu 610046, China, Stichting Epilepsie Instellingen Nederland (SEIN), 2103 SW Heemstede, The Netherlands, Developmental Neurosciences Research and Teaching Department, UCL Great Ormond Street Institute of Child Health, London, UK, Oxford Epilepsy Research Group, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, UK, Global Health Institute, University of Antwerp, Antwerp, Belgium, Neuroscience Unit, KEMRI-Wellcome Trust Research Programme, Kilifi, Kenya , Department of Psychiatry, University of Oxford, Oxford, UK"   Muhimbili University of Health and Allied Sciences

Background: Epidemiological evidence suggests that Onchocerca volvulus is associated with epilepsy, although the exact pathophysiological mechanism is unknown. Mahenge is an endemic focus of onchocerciasis, with the longest running ivermectin treatment intervention in Tanzania. Despite decades of Community Directed Treatment with Ivermectin (CDTI), there are still persistent onchocerciasis transmission and onchocerciasis-associated morbidities such as epilepsy.

Objective: The study assessed the prevalence of onchocerciasis and epilepsy after 25 years of control using ivermectin.

Methodology: This was a population-based cross-sectional study in 34 villages in Mahenge in 2021. A door-to-door household survey was conducted to screen for individuals suspected of epilepsy using a standardised questionnaire and confirmed by physicians. Children aged 6-11 years were screened for onchocerciasis antibodies using the Ov16 rapid test. Villages were stratified into three altitude levels (low, medium, and high) as a proxy for rapids, which blackflies favour for breeding sites.

Results: 56,604 individuals (median age 20.2 years, 51.1% females) were surveyed. Onchocerciasis prevalence in children was 11.8% and was highest in villages at medium (21.7%) and lowest in low altitudes (3.2%), p<0.001. Epilepsy prevalence was 21.1 (95% CI: 19.9–22.3) cases per 1000 persons and was highest in medium altitudes (29.5%). The odds ratio of having epilepsy was significantly higher in medium altitudes (OR=2.34 [95%CI: 2.04–2.68]), and in individuals positive for OV16 (OR=1.98 [95%CI:1.57-2.50]). Pre-survey epilepsy incidence was 117 cases per 100,000 person-years.

Conclusion: The prevalence of onchocerciasis and epilepsy remains high in Mahenge despite using ivermectin for 25 years. The risk factors for developing epilepsy in Mahenge were living in villages located at the medium attitudes and having positive onchocerciasis status.

Recommendation: We recommend strengthening the ongoing bi-annual ivermectin treatment, especially in the villages with a high prevalence of onchocerciasis and epilepsy. There is a need to introduce vector (Simulium) control interventions, especially in the villages located 400-950 meters above sea level, to accelerate the fight against onchocerciasis further and prevent the potential future development of epilepsy.

20. Brain Metastases MRI Patterns Among Intracranial Neoplasms at Muhimbili National Hospital and Muhimbili Orthopedic Institute

Author: Dennis Charles Mkony, Mwajabu A. Saleh, Ahmed Jusabani, Frank Minja.

Affiliation: Muhimbili University of Health and Allied Sciences, The Aga Khan University, Tanzania, Emori University School of Medicine, USA

Background: Metastatic brain lesions have exhibited an increasing incidence. Diagnosis of brain metastases (BM) often involves MRI due to its high sensitivity and specificity and clinical history. The common comorbidities in patients with brain metastases often make cranial surgery for biopsy and therapy impractical. This study investigates the MRI patterns of brain metastases among patients with intracranial neoplasms referred for brain MRI at Muhimbili National Hospital and Muhimbili Orthopedic Institute.

Objective: To determine MRI patterns of brain metastases among patients with intracranial neoplasms at Muhimbili National Hospital and Muhimbili Orthopaedic Institute

Methodology: Convenient sampling was used to obtain 124 consecutive patients in this descriptive cross-sectional study conducted in the Department of Radiology at Muhimbili National Hospital and Muhimbili Orthopedic Institute from October 2023 to March2024. Statistical analysis was performed using SPSS version 27. Chi square, binary and multivariate logistical regression were used to establish associations and likelihood ratio respectively. The level of significance was determined at p-value <0.05.

Results: Brain metastases (21%) were diagnosed at a higher mean age than primary intracranial neoplasms (52.5 years vs. 43.15 years). Multi-focal lesions were 32.96 times more likely to be metastases than primary (p value<0.001), with 62.0 more odds of occupying the grey-white matter junction (p-value <0.001). Compared to primary neoplasms, brain metastases demonstrated ring enhancements (53.8% vs 11.2%), perilesional edema (92.3% vs. 60.2%), and a higher mean perilesional edema diameter/Gross tumor diameter ratio (2.2914 vs. 1.5783) p-value <0.001.

Conclusion: The likelihood of intracranial lesion(s) being metastases is significantly increased if lesions in a patient more than 50 years old were, multifocal, occupying the grey-white matter junction, demonstrating ring enhancements. Other patterns favoring metastases presence of perilesional edema sparing the cortex, causing a shift of midline structures, and with a higher ratio of peritumoral edema diameter to gross tumour diameter.

Recommendation: Patients over 50 years old with MRI patterns demonstrating a high likelihood for brain metastases and a known systemic malignancy should forego biopsy. The absence of a known systemic malignancy in a patient with solitary/multiple intracranial lesions demonstrating the described patterns does not rule out metastases. This should prompt a thorough workout for the origin of primary cancer prior to surgical considerations for biopsy.

21. Readmission and Associated factors among patients with Decompensated liver cirrhosis admitted at Muhimbili National Hospital

Authors: **Happiness Swai**, Ewaldo Komba

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Cirrhosis is the end stage of chronic liver disorder and is associated with substantial inpatient morbidity and mortality. In Tanzania, Cirrhosis is the 13th most common cause of death. It contributes significantly to morbidity due to complications and frequent readmissions shortly after discharge. This study aims to determine the burden of 1-month and 3-month readmission rates and associated factors in our setting.

Objective: To determine the 1-month and 3-month readmission rates and associated factors among patients with Decompensated liver cirrhosis.

Methodology: A prospective cohort study involving 110 patients with decompensated cirrhosis was carried out at Muhimbili National Hospital (MNH) between August and November 2023 with 3 3-month follow-up. Data regarding socio-demographics, and clinical and laboratory factors were compiled. Comparison was done using Kruskal Wallis test (continuous variables) and Chi-square test and Fisher exact test (categorical variables). A robust Poisson regression model was used to analyze for factors associated with readmission and statistical significance set with p-value < 0.05.

Results: Of the 110 enrolled patients, males were 71.8%. The overall median age was 44.5, IQR [36-59] years. The predominant aetiology of cirrhosis was alcohol (38.2%) and ascites (68.2%) were the most common decompensating event at index admission. 66.4% of the patients presented with ≤ 2 complications and overall median MELD-Na score was 23, IQR [17-30].1-month and 3-month readmission rates in our study were 20.9% and 30.9% respectively. Logistic regression identified MELD-Na score and thrombocytopenia as factors associated with readmission.

Conclusion: This study highlights the alarming burden of readmission in our setting. The identification of MELD-Na score and thrombocytopenia as factors associated with readmission provide valuable insight into risk factors for poor outcomes in cirrhotic patients soon after discharge.

Recommendation: These findings will guide clinical practice and assist health practitioners in identifying those with poor prognosis so as to improve their outcomes. It would be necessary for long term studies with larger sample studies to explore best cut-off of MELD Na score and platelets levels for readmission. Additionally, exploring other risk factors like medication adherence is encouraged for future research.

22. Cumulative exposure to infliximab during induction therapy predicts remission in patients with inflammatory bowel diseases

Authors: **Juma Ayubu Mohamedi**, Debby Thomas, Jean-François Rahier, Edouard Louis, Filip Baert, Pieter Dewint, Guy Lambrecht, Séverine Vermeire, Peter Bossuyt, Denis Franchimont, Raphael Z Sangeda, Claire Liefferinckx, Erwin Dreesen.

Affiliation: Department of Pharmaceutical and Pharmacological Sciences, KU Leuven, Leuven, Belgium, Department of Gastroenterology, CHU UCL Namur, Yvoir, Belgium, Department of Gastroenterology, Centre Hospitalier Universitaire Sart-Tilman, ULG, Liège, Belgium, Department of Gastroenterology, AZ Delta, Roeselare-Menen-Torhout, Belgium, (5) Department of Gastroenterology, AZ Maria Middelares, Ghent, Belgium, (6) Department of Gastroenterology, AZ Damiaan, Oostende, Belgium, (7) Department of Gastroenterology and Hepatology, University Hospitals Leuven, Leuven, Belgium, (8)Department of Gastroenterology, Imelda General Hospital, Bonheiden, Belgium, (9) Department of Gastroenterology, Hospital Erasme, ULB, Brussels, Belgium, (10) Department of Pharmaceutical Microbiology, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: Although infliximab has revolutionized the pharmacological management of inflammatory bowel diseases (IBDs), non-response to induction therapy remains a challenge. While cumulative data reinforces the evidence base for trough concentration (TC)-guided therapeutic drug monitoring during infliximab maintenance therapy, consistent evidence for a role during induction therapy is still lacking. This work investigated the role of overall exposure

expressed as the area under the concentration-time curve (AUC) during induction therapy.

Objective: To assess whether the AUC of infliximab is a more accurate predictor of remission in IBD than the TC

Methodology: We conducted a prospective multicenter phase IV study to investigate the pharmacokinetics (PK) and exposure response relationship of infliximab during IBD induction therapy. The nonlinear mixed effect population pharmacokinetics (popPK) model was developed to describe the PK of infliximab during treatment from week (w) 0 to 30. The popPK model was used to estimate TCs and AUCs during induction therapy and linked with logistic regression to predict remission at w30

Results: This study included 74 patients who contributed 900 infliximab concentrations, 24.3% achieved remission by w30. A two-compartmental popPK model described infliximab course (Cl=0.31±3.8%L/d, Vc = 2.93±3.0% L, Vp = 1.98±8.5%, Q=0.39±14.3% L/d). Differences in TCs were insignificant between remission and non-remission groups (w2: 28.5±13.4 mg/L vs 23.1±11.4 mg/L; w6: 21.6±12.74 mg/L vs 14.71±9.7mg/L; w14: 6.4±4.9 mg/L vs 4.5±4.5 mg/L). Significant differences were found in AUCs between remission and non-remission groups (w0-2: 776±140 mg×d/L vs 668±163 mg×d/L; w0-6: 2,264±485 mg×d/L vs 1,916±582 mg×d/L; w0-14: 4,026±943 mg×d/L vs 3,303±1165 mg×d/L)."

Conclusion: Cumulative exposure (AUCs) to infliximab during induction predicts remission at w30. This key observation may impact the management of infliximab therapy, which is currently based on TCs. Compared to TC-guided TDM, AUC-guided infliximab (precision) dosing would demand an informative sampling scheme and create an opportunity for model-informed dosing precision tools.

Recommendation: It is now imperative that pharmacometricians develop a model-informed dosing precision tool or software with a reasonable number of plasma sampling points for AUC estimation. The tool must be clinically feasible and pharmacometricians must collaborate closely with gastroenterologists to enhance the management of IBD

23. Lesson Learnt from Using Computer-Aided TB Detection in Zanzibar

Author: **R. Omar,** Z. Kondo, M. Ngowa, M. Machaku, F. Temu, M. Dahoma, J. Mshana, P. Wilbroad, G. Munuo.

Affiliation: Amref Tanzania

Background: Tanzania is among 30 high tuberculosis (TB) burden countries. Despite the efforts, about 36,000 people are missed. Systematic screening is one of strategy to ensure that risk populations for TB are reached. To facilitate systematic screening, the Ministry of Health(MoH) Tanzania procured Mobile TB clinics(MTBC) to provide one-stop-shop TB services. MTBC has a digital X-ray

machine with artificial intelligence computer-aided TB detection(CAD). Amref in collaboration with MoH Zanzibar utilized mobile TB clinic.

Objective: To share the lesson and experience gained from using CAD

Methodology: Participants at the MTBC underwent symptomatic TB screening. Then, people presumed to have TB (except children under 2 years) received chest x-ray (CXR) investigation and sputum molecular evaluation. CXR was used in algorithm to assist in clinical TB diagnosis if sputum results were not conclusive of TB. CXR images were read by CAD then radiologist. CAD thresholds with score of 40 and above was suggestive to have TB.

Results: On September 2023, 2326 clients (971F:1355M) were symptomatic screened and 645 were presumptive for TB. Among those presumed, 132 CXR images were identified as suggestive of TB by CAD, of which 38 (28.8%) were concluded to have features of active TB disease by radiologist. Other features read as active TB were non-active TB disease such as old TB disease, bronchitis, pneumonia, and conditions like cardiomegaly. 1 image among 513 non-suggestive by CAD was concluded as active TB features by radiologist.

Conclusion: CAD has potential screening role in systematic screening. It can be used to screen participants for molecular evaluation and hence minimize cost also.

Recommendation: Radiologist's role is emphasized in settings where specific calibration is not in place. This is a call for further operational studies in CAD in Tanzania setting.

24. The Burden of Skin Lightening Practice and its Cutaneous Effects Among Women in Kinondoni Municipality.

Author: **Yesaya Msangi**, Magdalena Denis, Eliaichi Minja, Grace Shayo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Skin lightening is the process of applying chemical substances to whiten the skin area, eventually enhancing an even skin color by reducing the melanin concentration in the skin. Individuals practicing skin lightening (SL) may end up with skin manifestations including permanent hyperpigmentation. Persistent use of SL products has been linked to both demographic and socio-economic factors.

Objective: This study aimed at describing the burden of SL practice and their cutaneous effects among adult women in Kinondoni Municipality,

Methodology: A cross-sectional study was conducted from September 2023 to January 2024. A multistage sampling was used to obtain households for the study. Interviews and physical examinations were carried out to consenting members of 684 households. SL was defined as reported use of cosmetics and evident skin changes. Ingredients of the skincare products as well as skin conditions were

documented. Descriptive statistics and Poisson regression were used to assess for

Results: A total of 1192 women with a median (IQR) age of 32 (26, 42) were recruited. Over half (52.3%) of the participants were married, while 46.3% had attained primary level education. The overall prevalence of SL was 54.5%, being significantly more prevalent among front desk workers (19%, p <0.048) and petty traders (11%, p-value <0.03). Frequently used chemicals were kojic acid (50%) and hydroquinone (34%). Majority (82%) of the women practiced skin lightening for beauty reasons, 1.3% had prescriptions for

Conclusion: The burden of SL was high. Most front desk workers and petty traders practiced SL. Advice from relatives, friends, or cosmetic vendors significantly led to SL practice. Hypopigmentation, hyperpigmentation (including EO), erythema, Acne, pruritus, striae, telangiectasia, easy bruising, and hirsutism were the most common undesired skin conditions.

Recommendation: Public health education/awareness (in streets and schools) needs to be provided to society as many of the participants use skin care products without knowing the ingredients and their effects they take. Government – MOH and responsible boards (TFDA&TBS) should employ more efforts on screening and restrict harmful skin care products that are currently imported

25. Factors Influencing Clinical Response to Neoadjuvant Therapy Among Patients with Wilms Tumor at Muhimbili National Hospital.

Authors: **Leonard Selestine**, Ally. H. Mwanga, Godfrey Mchele

Affiliation: Muhimbili University of Health and Allied Science.

Background: The combination of neo-adjuvant therapy, surgery, and adjuvant therapy has resulted in a cure rate exceeding 90% for non-metastatic Wilms' tumors in developed nations, yet the cure rate in low-income countries is inferior. Neo-adjuvant therapy is essential for reducing tumor size, downstaging the disease, and enhancing surgical outcomes. Nonetheless, despite the completion of neo-adjuvant therapy, available evidence in our setting reveals a proportion of patients presenting with gross tumors intraoperatively.

Objective: To determine the factors influencing clinical response to neoadjuvant therapy among patients with Wilms tumor at Muhimbili National Hospital (MNH).

Methodology: We conducted a hospital-based cross-sectional analytical study at MNH in Dar es Salaam enrolling a total of 113 children with pathologically confirmed Wilms tumors between January 1, 2018, and December 31, 2023. Data on patients' demographics, clinical and pathological characteristics, treatment regime, and intraoperative complications (such as tumor rupture, or spillage) was collected. We analyzed data using SPSS version 23 and a P -value of <0.05 was considered significant.

Results: The median age at presentation was 48 months, with an interquartile range (IQR) of 24 to 60 months and an approximate male-to-female ratio of 1:1. Abdominal swelling was a predominant symptom (98.2%), 6.8% were malnourished with 46% presented with clinical stages III and IV (advanced disease) at the time of diagnosis. The majority of the patients had an intermediate-risk histology (63.7%). About 42.5% experienced a major decrease in tumor volume 63.7% stable disease, and 23% experienced intraoperative tumor spillage.

Conclusion: The overall response to neoadjuvant chemotherapy in tumor volume reduction among patients with Wilms tumors at MNH is significant (P=0.001); however, its effect was influenced by delayed presentation with advanced disease, an older age group, and malnutrition presenting with relatively large tumor volume at the time of diagnosis (P<0.05).

Recommendation: Strategies to enhance public awareness concerning Wilms tumor, and prompt referral from primary health facilities to pediatric cancer treatment centers are crucial to reduce proportions of older children with advanced disease stages which negatively impacted responses to neoadjuvant therapy among Wilms tumor patients at MNH. BMI for children >5yrs with Wilms tumor should not be used it underestimate magnitude of malnutrition.

SUBTHEME: Health systems Research

26. Factors Associated with the Implementation of an Improved Community Health Fund in Public-Owned Health Facility in the Ubungo Municipality, Dar es Salaam, Tanzania

Authors: **Goodluck Mselle**, Peter Nsanya, Kennedy Diema Konlan, Yuri Lee, Jongsoo Ryu, Sunjoo Kang.

Affiliation: Ubungo Municipal Council

Background: Community-based health insurance schemes help households to afford healthcare services. This paper describes healthcare facilities and community factors that are associated with the Improved Community Health Fund (iCHF) scheme in the Ubungo district of Tanzania.

Objective: The study aimed to describe the community and healthcare facility factors that influence the implementation of the iCHF in Ubungo Municipality, Tanzania.

Methodology: A cross-sectional descriptive study was conducted using online questionnaires that were completed by healthcare providers and community members in public-owned healthcare facilities in the Ubungo Municipal Council district of Dar es Salaam, Tanzania, between October and November 2021

Results: We found a statistically significant relationship between income level and satisfaction with the iCHF scheme. For community-related factors, income

level was statistically significant in the level of involvement in iCHF implementation among local leaders. Occupation was statistically significant in iCHF implementation, iCHF premiums, and iCHF membership size. A statistically significant relationship was also found between income, iCHF membership size, and iCHF premiums.

Conclusion: The lesson learned is that the community is willing to pay the required premiums if the quality of the healthcare services under the iCHF scheme improves at the health facilities.

Recommendation: The government should allocate resources to reduce the challenges that are facing iCHF implementation, such as the preference for a user fee scheme over the iCHF, the issues that are faced by enrollment officers, and inadequate iCHF premiums and membership size.

27. Post-registered intern nurses' Perception on internship program in Tanzania

Authors: **Elice Kajuna**, Mary Lyimo

Affiliations: The Aga Khan University- Dar es Salaam, Tanzania, Shree Hindu Mandal Hospital - Dar es salaam, Tanzania

Background: In Tanzania, the internship program is a mandatory step for post-registered intern nurses, initiated in November 2020. With a growing demand for healthcare professionals and an evolving healthcare landscape, the effectiveness of internships in preparing nurses for their roles is of paramount importance.

Objective: This study explores the perceptions of post-registered intern nurses regarding internship programs in Tanzania.

Methodology: An exploratory study employing a qualitative approach was conducted involving in-depth interviews with 8 post-registered intern nurses at Muhimbili National Hospital (Upanga and Mloganzila). Interviews were conducted in English and Swahili, based on participants' language preferences, lasting 30-45 minutes. Verbatim transcriptions and English translations were used for thematic analysis.

Results: The study involved 8 participants, including 5 females and 3 males, aged 30 to 44, with over six months of internship experience. Five key themes emerged from their perceptions: the program's nature, execution, satisfaction with placement, program advantages, and challenges faced.

Conclusion: The internship program offers valuable knowledge and skills that enhance the competence of intern nurses, effectively preparing them for their professional roles. However, the responses from the interns might also be influenced by financial incentives.

Recommendation: Future studies, particularly longitudinal ones, are recommended to provide a clearer understanding of the knowledge and skills gained through the program.

28. Pathways Towards Resilience and Sustainability; Addressing Immunization Barriers with Human-centered Qualitative Modelling and Systems Thinking

Author: **David T. Myemba**, George M. Bwire, Beatrice Aiko, Bruno. F. Sunguya, N. Vandaele, C. Decouttere

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: The immunization system in Tanzania, like many African countries, is facing supply and demand related barriers such as administrative and infrastructural challenges, socioeconomic disparities and vaccine hesitancy. The COVID19 pandemic caused disruptions while outbreaks of vaccine-preventable diseases raise questions about sustainable access to immunization services. Underlying dynamics and root causes for these problems are not well-understood, leading to symptomatic rather than fundamental solutions.

Objective: This study aimed to develop model-based decision-support tools to understand sustainability and resilience problems, and support policy design.

Methodology: The study employed a transdisciplinary human-centered approach. It involved immunization stakeholders through interviews, group discussions, and workshops, from March 2023 to April 2024. The stakeholders included parents/caregivers, healthcare workers, vaccine coordinators, program managers, and Non-Governmental Organizations. A systems thinking methodology was employed to develop causal loop diagrams (CLDs) from stakeholder insights and literature reports.

Results: Several immunization barriers include inequitable access due to disparities in vaccine information, facility accessibility, availability, attitudes, and affordability. Inadequate infrastructure involves poor data management and cold chain capacity. The healthcare workforce is limited in skills and numbers. Funding delays and reliance on donors hinder vaccine operations, worsened by COVID-19. Complex feedback loops influence vaccination including mechanisms for vaccine confidence, disease risk perception, and vaccination service quality. Investment in vaccination services is reactive and reliant on political will and external funding.

Conclusion: The CLDs identify feedback loops influencing vaccination, including mechanisms for vaccine confidence, risk perception, vaccine operations, vaccine awareness, meeting vaccination needs and service quality. The investment paradigm emerges as a high leverage point driving these mechanisms by being more reactive than proactive and over-reliant on political willingness and

external funding. Good leadership and accountability are essential for successful vaccine operations.

Recommendation: For long-term viability of vaccination services, sustained investment is crucial. This covers adequate funding for vaccine operations, healthcare system capacity, and workforce development. Changing the investment paradigm to proactiveness and self-dependency is vital, along with proper stewardship of vaccine operations. This involves reducing delays in decision-making and implementation.

29. Adoption and Utilization of Risk-Based Post-Marketing Surveillance Tools in EAC and Igad Countries

Authors: **Nilham K. Ally**, Goodluck Nyondo, Vicky Manyanga, Evans Sagwa, and Eliangiringa Kaale.

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS), Promoting the Quality of Medicines Plus (PQM+)

Background: Substandard and falsified (SF) medical products pose significant health risks, especially in low- and middle-income countries. Conventional post-market surveillance (PMS) is resource-intensive and less effective in addressing these threats. The World Health Organization (WHO) introduced risk-based post-market surveillance (RB-PMS) to help National Medicines Regulatory Authorities (NMRAs) focus on high-risk products and areas. However, there is insufficient information on the adoption and utilization of RB-PMS tools in EAC and IGAD countries.

Objective: Assessing the adoption and utilization of risk-based post-marketing surveillance tools in EAC and IGAD countries conferring its potential and challenges.

Methodology: This exploratory-descriptive qualitative study employed a semi-structured questionnaire to conduct in-depth interviews with regulatory authority professionals involved in PMS in EAC and IGAD NMRAs. Purposive sampling was used in the selection of participants and sample size was guided by data saturation.

Results: EAC and IGAD countries' have adopted the risk-based PMS approach. Somalia and Djibouti are still establishing their NMRAs. Kenya and Ethiopia utilize the MedRS tool for PMS activities, whereas other countries rely on applying risk-based protocol. Adoption is influenced by efficient resource utilization, enhanced SF detection, and complying with WHO guidelines. MedRS tool offers systematic and automated processes, targeted sampling, and improved data management. However, challenges such as insufficient training, data confidentiality, technical issues, and limited resources hinder the adoption.

Conclusion: Utilization of RB-PMS tools continue to gain popularity. Addressing the adoption challenges is crucial for optimizing PMS practices and ensuring the safety and efficacy of medical products in the respective countries.

Recommendation: To expedite uptake, WHO and other partners should support the adoption and utilization of RB-PMS tools in EAC and IGAD countries.

30. Assessment of factors hindering under-five children enrolment into NHIF at Mwananyamala Regional Referral Hospital

Authors: Tanyamelisa Barahona, Leonard Malasa, Dharia Amour, Maulid Fataki, Felician Rutachunzibwa, Flor-ence Salvatory Kalabamu

Affiliation: Kairuki University

Background: Only 8% of the population in Tanzania have health insurance, despite the aim being ensuring easy accessibility to health care services.Despite the easy accessibility and affordability made possible by NHIF to Tanzanians, most of the children in the country are not enrolled in NHIF due to various factors faced by their caregivers.

Objective: To assesses the number of uninsured children in Dar es Salaam and examine factors hindering their enrolment into NHIF

Methodology: In this study, conducted by employing a prospective study at Mwananyamala regional referral hospital by targeting women with children under 5 years attending at the hospital obtained by random sampling. This study is going to show prevalence of children under 5 years without health insurance and the factors hindering their enrollment in NHIF in Tanzania.

Results: Of the 140 participants, only 23 ever used NHIF for their children, this amounts to 16.4% of the total participants and 117 of the total participants never used NHIF which amounts to 83.6% about three quarters of the participants . Findings show that all of the respondents had the knowledge of the NHIF benefits and packages provided by this scheme, implying that the information was gathered from people with some knowledge about NHIF.

Conclusion: Significant factors hindering children under five from having health insurance include poverty, parental ignorance of its importance, and lack of awareness of enrollment procedures. 44.3% lacked enough education or awareness, while only 0.7% cited poor services. Caregivers' age and employment status also influence NHIF enrollment.

Recommendation: To improve NHIF accessibility for children under five, the study recommends: Increasing education and awareness for caregivers on the importance and procedures of NHIF registration. The Ministry of Health should reconsider the recent amendments to NHIF fees for children.

31. Assessment of Mechanical Ventilation Practice and its Associated Factors Among Intensive Care Nurses at Muhimbili

Author: Benedicto O. Mwampashi, Respicious Boniface, Edwin Lugazia.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Although mechanical ventilation is a lifesaving intervention if not properly done, it can adversely affect patients, leading to significant morbidity and mortality. Nurses caring for critically ill patients must demonstrate good knowledge and practice in mechanical ventilation to prevent ventilator-related complications.

Objective: The study aimed at assessing mechanical ventilation practice and its associated factors among intensive care nurses at Muhimbili.

Methodology: A cross-sectional study was conducted at Muhimbili National Hospital and Muhimbili Orthopedic Institute Intensive Care Units, involving 81 nurses. An observational checklist and a questionnaire were used to evaluate practice and associated factors. The data were analysed with SPSS version 26. Descriptive statistics were summarized using frequency and proportions, while the Chi-square test was used to assess the significance of the association between variables at a p-value < 0.05.

Results: The overall mechanical ventilation practice of intensive care nurses is unsatisfactory and there is a significant knowledge gap regarding mechanical ventilation.

Conclusion: The overall mechanical ventilation practice of intensive care nurses is unsatisfactory, and there is a significant knowledge gap regarding mechanical ventilation.

Recommendation: Institutions and policymakers must consider offering opportunities for post-graduate training in critical care nursing, emphasize nurses' participation in CME programs, and workshops, and ensure the availability and utilization of operational guidelines to increase the safety of critically ill patients under mechanical ventilation.

SUBTHEME: Oral, Eye, ENT Health and Care

32. Incidence of exposure keratopathy among patients admitted in intensive care units at Muhimbili National Hospital

Authors: **Swai N**, Mosenene S, Mafwiri M, Masuki H, Mhina C, Moshi N

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS), Muhimbili National Hospital

Background: Exposure keratopathy (EK) occurs in up to 60% of patients admitted in intensive care units (ICUs). Being unconscious is associated with decreased ocular protective mechanisms. If not diagnosed early, EK can progress to microbial keratitis, corneal perforation and even loss of an eye. EK can be prevented by following eye care protocols in ICUs. At Muhimbili National Hospital the magnitude and risk factors for EK have not been studied.

Objective: To determine the incidence of exposure keratopathy and associated factors among adult patients admitted in ICUs at Muhimbili National Hospital.

Methodology: A cohort study was conducted from June to November 2023. Consecutive sampling was used, data analysis was done using STATA version 15.0. Statistical significance was defined as p-value < 0.05. Logistic regression analysis was done to determine the association between the variables in which the odds ratios (ORs) were obtained. Kaplan Meier analysis was done in which the change in probability of not developing exposure keratopathy over time was explored.

Results: A total of 180 participants were recruited. The median age was 46 (IQR 32) years and 54.4% were females, 71.1% stayed in ICUs for <8 days, 52.2% were on invasive ventilation and 51.7% had GCS of <9. Lagophthalmos and conjunctival chemosis were present in 26.1% and 23.3% of study participants respectively. EK occurred with an incidence rate of 47.9 cases per 1000 person-days. Being on invasive ventilation, low GCS, chemosis and lagophthalmos were associated with increased odds of developing EK.

Conclusion: The incidence of exposure keratopathy among patients admitted in intensive care units at Muhimbili National Hospital was high. The presence of lagophthalmos, conjunctival chemosis, low Glasgow coma score and being on invasive ventilation were associated with increased chances of developing exposure keratopathy.

Recommendation: Efforts to reduce the occurrence of exposure keratopathy in intensive care units at Muhimbili national hospital are necessary. This can be achieved by raising awareness of the condition to the intensive care units' workers through their continuous medical education programs, formulation and implementation of eye care protocols for the patients who are admitted in intensive care units.

33. Craniofacial Skeletal Profile of the Tanzanian Population

Authors: Ali Khamis Hamad

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Since the cephalometric norms of one specific population group have shown a great degree of variations when applied to other groups, researchers suggested considering the ethnic differences when the treatment plans for orthodontic patients are being formulated. Additionally, most available cephalometric software has been designed based on data derived from the Caucasian population.

Objective: To establish cephalometric values of Tanzanian populations with normal occlusion for later development of affordable software for cephalometric evaluation.

Methodology: The present study involved samples of lateral cephalograms taken in the natural head position of a total of 309 participants, with 142 males and

167 female participants. Each cephalogram was traced to identify anatomic landmarks, analysed, and interpreted using Quick Ceph® Studio, Version 5.2.6. To compare between two groups, the student's t-test, mean and standard deviation were calculated using RStudio Desktop for macOS.

Results: describes the average cephalometric values obtained from our study, thus, representing the craniofacial morphology of Tanzanian populations with normal occlusion. showed that the means of the Tanzanian sample were significantly different in most measurement items from the means of the Caucasians. Only Wits (linear), S-Go: N-Me (ratio), and SN-OcP (angular) measurements depicted no statistically significant difference between Tanzanian and Caucasian subjects.

Conclusion: According to the readings, Tanzanian population has bimaxillary protrusion, normal relation of maxilla and mandible to each other, convex facial profile, increased vertical dentoalveolar dimension, decreased upper facial height, increased lower facial height, decreased anterior and posterior facial height, normal ratio of posterior to anterior facial height, normal vertical dentoalveolar dimension, and protrusive lips when compared to the Caucasian population.

Recommendation: It is legitimate and essential for those undertaking orthodontic treatment for Tanzanian patients to use cephalometric norms for the Tanzanian population.

34. Health Workers' Knowledge and Practices on Red Reflex Test in Selected Health Facilities in Dar es Salaam

Authors: **Gloria Z. Uriyo**, Heavenlight Masuki, Celina Mhina, Anna Sanyiwa, Suzan Mosenene, Milka Mafwiri

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The red reflex test (RRT) is vital for detecting ocular diseases in newborns, recommended at birth and during RCH visits. It's underutilization lead to delayed disease diagnosis and consequently increasing visual impairment, blindness and death. In our setting most children present to tertiary hospitals with advanced eye disease that could be prevented by routine red reflex test. Good knowledge on RRT will influence its practices and hence early disease detection.

Objective: To assess knowledge, practices on red reflex testing and associated factors among RCH workers in selected health facilities in Dar-es-salaam

Methodology: A cross-sectional analytical study in 7 health facilities in Dar es Salaam from June to December 2023 was conducted. An interviewer administered questionnaire and checklist was used for data collection. Statistical Package for Social Sciences version 26 was used for data analysis, employing logistic regression to test association strength, with p value of less than 0.05 indicating statistical significance.

Results: The study included 303 participants, predominantly females (73.9%), with median age of 35 years (IQR: 28-43). Level of knowledge was 57.18% ± 15.35%, with 50% having inadequate knowledge. None of the participants performed red reflex test. In multivariate analysis formal training history and training area were significantly associated with adequate knowledge. Those who had formal training on the red reflex test were 1.15 times more likely to have adequate knowledge, while university/college-trained individuals were 0.83 times less likely.

Conclusion: Participants had inadequate knowledge and poor red reflex test practices. Adequate knowledge was associated with formal training history.

Recommendation: Emphasis on regular on job training on red reflex test among RCH workers should be done.

35. Maxillectomy: Indications, Types and Factors Associated with its Early Complications Among Patients Operated at Muhimbili National Hospital, Tanzania

Author: Baraka Marco

Affiliation: Muhimbili University of Health and Allied Sciences

Background: A global rise in surgical complications has been reported in recent years, ranging from 3-22%. It continues to be a public health problem in terms of patients mortality, morbidity and hospital costs. A higher burden of complications is documented in maxillectomy procedures ranging from 10.6 to 43.9%, where some complications are serious and life-threatening. However, in Tanzania, little is known about complications of maxillectomy and their associated factors.

Objective: To determine indications, types and factors associated with early maxillectomy complications among patients operated at Muhimbili National Hospital.

Methodology: We conducted a hospital-based cross-sectional study and recruited 62 patients who underwent surgery at MNH between September 2023 and March 2024. A convenient sampling technique was employed, and a semi-structured questionnaire was used for data collection. Descriptive and Logistic regression analyses were performed to determine indications, types and factors associated with early complications of maxillectomy. A p-value of <0.05 was considered statistically significant.

Results: The median age was 38.5 years, 51.6% were males, 16.1% were underweight, 33.9% had known comorbidities, 9.7% and 29.0% had positive history of tobacco use and alcohol consumption respectively. Overall, 56.5% of participants had some form of early complications, with wound infections being predominant. Total maxillectomy, > 3 hours duration of surgery and malignant tumors significantly showed higher rates of complications in their respective subgroups. However,> 3 hours duration of surgery was the only factor associated with early complications after multivariate logistic regression analyses.

Conclusion: Early complications of maxillectomy affect more than half of the patients undergoing surgery at MNH. Despite the benefits of maxillectomy, burden of its complications is unacceptably higher compared to global statistics, with wound infections being the most common. Interestingly, most of the maxillectomy complications reported in this study, can be prevented by prompt perioperative measures.

Recommendation: Based on the study findings; Surgeons, nurses, and anaesthetists should comply with IPC standards to minimize the wound infection burden among maxillectomy patients. Importantly, antibiotics prophylaxis is necessary in patients with more than 3 hours duration of surgery. Also, given the time and fund limitations of our study, we recommend further studies involving larger sample sizes and multiple settings.

36. Third Molar Impaction Pattern and Associated Sagittal Malocclusions Among Patients Who Attend for OPG Radiograph

Author: **Alex Elius**, Matilda Mtaya, Ferdinand Machibya

Background: Impacted teeth are teeth that fail to erupt to their normal occlusal level due to barriers in the path of eruption. Are highly prevalent worldwide. Commonly affected teeth are third molars, maxillary canines, and mandibular second premolars. Impacted teeth are diagnosed by X-rays, especially OPG. They may be associated with malocclusions and other conditions. The occurrence of impacted teeth with malocclusions complicates orthodontic and surgical treatment planning.

Objective: Assessing third molar impaction pattern and associated sagittal malocclusions among patients who attended OPG at MUHAS dental radiology unit.

Methodology: A hospital-based analytical cross-sectional study, conducted between February and April 2024 at the school of Dentistry- MUHAS. A convenience sampling method was used. The study involved patients who attended the dental radiology unit for OPG. It involved Clinical examination, radiological examination, and lateral photographs for respondents who consented and met other inclusion criteria, special forms were used to collect data. Entry of data and analysis were done using SPSS version 25.

Results: Mesial angular impactions were the most common (34.7%). Vertical, distoangular, horizontal, and other impactions were 30.1%, 9%, 6.8%, and 1.5% respectively. For P&G; position B was the commonest 54.1%) and position C the least. Class II was the commonest (63.2%). Angle's molar class I was the commonest (71.3%) and class III the least (10.1%). Straight facial profile was (66.3%), concave (17.1%), and convex (16.7%). Increased overjet was 32.2%, reduced overjet (16.3%), reverse overjet (4.7%) and anterior crossbite was 6.2%.

Conclusion: The prevalence of sagittal malocclusion is high, Angle's class I being the commonest. Also, the prevalence of 3rd molar impaction patterns is high.

Mesial angulation, position B and class II 3rd molar impactions are the highest. These results highlight the need for improved treatment protocols for 3rd molar impactions with malocclusion and increasing the clinician's awareness toward 3rd molar impaction.

Recommendation: X-rays (OPG) should be mandatory before fixed orthodontic appliance treatment (FOA). OPG x-ray machines must be available to all health facilities especial the tertiary health facilities

SUBTHEME: Communicable Diseases and Antimicrobial Resistance

37. PrEP prevention-effective adherence among women at high risk of HIV: control-arm analysis of pragmatic trial

Authors: **Wigilya P. Mikomangwa**, Kåre Moen, Elia J. Mmbaga, Emmy Metta, Stephen M. Kibusi, Melkizedeck T Leshabari, Appolinary A. R. Kamuhabwa, Gideon Kwesigabo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Prevention-effective adherence is of critical importance but challenging particularly among key populations where periods of high HIV risk are frequent. Pre-exposure prophylaxis (PrEP) prevention effective adherence involves aligning the use of PrEP pills with unprotected sex practice. PrEP Prevention-effective adherence among female sex workers is understudied globally.

Objective: To determine PrEP prevention-effective adherence among female sex workers in Tanga, Tanzania.

Methodology: This was part of the pragmatic quasi-experimental trial for HIV pre-exposure prophylaxis rollout in Tanzania (PREPTA) involving a control cohort of 313 female sex workers ≥18 years of age recruited using respondent-driven sampling and followed for 12 months. PrEP use and sexual behaviour were assessed at the 6th and 12th month of follow-up. Modified Poisson regression analysis was conducted to determine factors influencing PrEP at $p < 0.05$.

Results: Prevention-effective adherence among participants who had unprotected vaginal sex was 10.1% (month 6) and 3.8% (month 12). Also, the prevention-effective adherence among participants who had unprotected anal sex was 8.0% (month 6) and 10.0% (month 12). The use of ≥2 PrEP doses/week was associated with living with friends (aPR=25.5; 95%CI: 2.55-255.42, p=0.006), self-perceived health status (aPR=17.4; 95%CI: 3.01-101.02, p=0.001), refusing unprotected sex with steady partner (aPR=11.2; 95%CI: 1.55-80.48, p=0.017) and accepting unprotected sex at high pay (aPR=0.1; 95%CI: 0.03-0.26, p=0.000).

Conclusion: PrEP use during unprotected sex was rare among female sex workers. Living with friends and refusing unprotected sex with steady partners were

determinants of PrEP use. However, accepting unprotected sex for increased payment was significantly associated with lower PrEP use.

Recommendation: This calls for an in-depth study to understand the circumstances shaping poor prevention-effective adherence sex among female sex workers.

38. Microbial Surveillance and Gut Microbiomics among Newborns with Neonatal Sepsis in Tanzania (MS-GM-NST)

Authors: Fatima Mussa, Agricola Joachim, Robert Moshiro, Monica G. Appollo, Salim Masoud, Julia Pagel, Robin Kobbe, Nahya Salim Masoud

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Neonatal sepsis remains a top threat in many low- and middle-income countries, exacerbating antimicrobial resistance (AMR). Addressing diagnostic challenges and antibiotic selection guidance is vital. Understanding neonatal sepsis epidemiology, AMR, and preterm gut dynamics is crucial for effective treatment and prevention. Gut dysbiosis is a major risk factor for late-onset sepsis in preterm infants. Recognizing and addressing gut dysbiosis may improve predictive microbiome patterns and enable targeted interventions.

Objective: To identify risk factors, causative bacterial pathogens, AMR prevalence and understand gut microbiomics in late-onset sepsis (LOS) preterm infants

Methodology: We collect clinical data, perform blood cultures for microbial surveillance, and also collect fresh frozen fecal samples from preterm infants and follow them up until 28 days of life. DNA extracted from fecal samples of infants with culture-proven LOS and a sufficient number of controls will be analyzed for microbial community function using microbial metabolic network modeling. The study will be conducted for 24 months.

Result: While in the early phases of data collection, we report challenges in study implementation in low and middle-income settings. These include limited infrastructure and supplies, trained human resources, and financial constraints. Despite this, the study endeavors to enroll adequate participants with culture-proven LOS, establish colonization screening, and characterize local microbiomes.

Conclusion: AMR surveillance in NICUs enhances antibiotic prescription efficiency, and treatment optimization, and fosters clinical research. It integrates into surveillance networks, attracting funding opportunities. This study complements AMR surveillance by exploring the gut microbiome's role in neonatal care.

Recommendation: This research can develop data on pathogens of neonatal sepsis and AMR to establish a high standard of care and demonstrate the benefits of diagnostics. Data generated will enhance more Tanzanian neonatal sepsis

studies and may even facilitate future clinical trials on specific probiotics for sepsis prevention in LMIC.

39. Incidence of TB Disease and Associated Factors in CLHIV on Art And IPT in Dar-ss-Salaam

Authors: **Edward F. Ngalya**, Evance Godfrey, Namala Mkopi, Karim Manji

Affiliation: Muhimbili University of Health and Allied Sciences

significant morbidity and mortality in children, given their synergistic effect. Progress has been made towards reducing the incidence of TB and HIV. WHO recommends the use of IPT to reduce TB incidence in People living with HIV including children. These recommendations are based on adult evidence but little is known about the effect of IPT on TB incidence in the Children Group.

Objective: Assess the effect of IPT on TB disease incidence and mortality among CLHIV aged 1-15 years on ART in Dar-es-salaam

Methodology: A retrospective cohort study, data of children aged 1-15 years, newly diagnosed HIV positive between 1st January 2019 to December 31st started on ART, 2022 from the NACP database of selected CTCs clinics in Dar-es-salaam region. Data of CLHIV followed up for initiation of IPT and the two groups of IPT users and non-IPT users were followed up for the outcome of TB disease, and Mortality was compared for associations.

Results: 480 newly diagnosed CLHIV on ART of which 268 used IPT Most were aged 5-15 years (57.9%), the majority had advanced HIV WHO clinical stage 3&4 (63.4%), and almost 75% were on INSTIs based ART combination. 13 CLHIV developed outcome of TB disease. most cases of TB and mortality (53.8%, and 79.6% respectively) occurred within the first 6 months of follow-up. Overall TB and mortality incident rates were higher among non-IPT users 228.3 and 1649.6/10,000 respectively.

Conclusion: The incidence rate of TB and mortality were lower by more than 40% and 99% among IPT users respectively. Most cases of TB and mortality occur within 6 months of ART initiation calling for more effort to be directed here to lower the incidences. A Huge number of children with HIV are diagnosed late putting them at risk of TB.

Recommendation: Together with other TB prevention strategies use of IPT should continue to be implemented for all eligible CLHIV since it substantially reduces TB disease and mortality rates among HIV-infected children. targeted efforts should be made to ensure early HIV diagnosis in children and strategies to lower TB disease and mortality early on after HIV diagnosis.

40. Frailty Among Adults Living with HIV Attending Clinic at Muhimbili National Hospital, Dar-es-Salaam Tanzania

Authors: **Regina Mmanda**, Tumaini Nagu, Joan Rugemalila

Affiliation: Muhimbili University of Health and Allied Sciences.

Background: Frailty, marked by physical weakness and susceptibility due to age-related declines in physiological reserves, reduces individuals' capacity to handle stressors and perform daily activities. In Tanzania, understanding of frailty and its impact on quality of life is limited, particularly among people living with HIV (PLHIV), who face a heightened risk. This study aimed to assess frailty prevalence, associated factors, and its correlation with quality of life in adult PLHIV.

Objective: To determine the prevalence of frailty, associated factors, and its impact on Health-related Quality of Life among PLHIV attending MNH

Methodology: A cross-sectional study was conducted at Muhimbili National Hospital's Care and Treatment Centre from August to November 2023. 268 PLHIV aged 35 and above participated, with data collected on socio-demographics, lifestyle, and clinical factors. Frailty was assessed using the FRAIL scale, and quality of life was assessed using the WHOQOL-HIVBREF tool. Statistical analyses, including ordinal logistic regression, determined associations between variables and frailty/pre-frailty status, with significance set at p<0.05.

Results: In this study, 72.4% of PLHIV participants were female, with a mean age of 51.8±10 years. Over half (55.2%) were aged 50 and above, with a median HIV diagnosis age of 40 years (IQR 34–49) and median HIV positivity duration of 96 months (IQR 36–192). Prevalence of pre-frailty and frailty stood at 23.5% and 27.6%, respectively. The overall quality of life score was16.2±1.6. Frailty correlated with older age (≥50 years), female gender, marital status, hypertension, and lower quality of life

Conclusion: The prevalence of frailty in people living with HIV is substantial, and it is linked to several important clinical and social conditions. It is also associated with a decrease in overall quality of life. Given its association with aging and quality of life, frailty assessment is a crucial factor to take into account while providing care for HIV patients.

Recommendation: Regular clinic visits are crucial for PLHIV to control comorbidities like hypertension. Older PLHIV, more prone to frailty, require close monitoring. Annual frailty assessments, especially for those over 50, using tools like the FRAIL scale, should be standard. Strategies to prevent frailty, such as physical activity programs and medical management, should be integrated into HIV care. Further research is needed

41. Hepatitis B Virus: Prevalence, Vaccination Coverage, Immune Responses to Immunization among Healthcare Workers at MNH

Authors: **Marythereza Orotta**, Patricia Munseri, Amunga Meda

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Hepatitis B infection (HBV) affects around 2 billion people, with 820,000 deaths annually from HBV-induced liver cirrhosis and hepatocellular carcinoma. HCWs face a heightened risk of contracting and spreading HBV infection due to their nature of work. Vaccination is the main method of control as there is no cure for HBV

Objective: The prevalence of HBV infection, vaccination coverage, immune responses to vaccination, and factors associated with vaccine hesitancy among healthcare workers

Methodology: This cross-sectional study recruited 415 HCWs at MNH. Participants' information was collected by questionnaire. All participants were tested for HBsAg. Participants who were vaccinated were tested for immune response by HBsAb and HBcAb. Data was collected via REDCap version 11.1.5 and analyzed using Stata version 15.1. Prevalence of HBV infection, vaccination coverage, and immune response were analyzed as proportions. Factors associated with vaccine hesitancy were determined by using Robust Poisson Regression.

Results: A total of 415 HCWs at MNH were recruited. The overall prevalence of HBV infection was 1.2%. Among the recruited HCWs, 46.3% received at least one dose of the HBV vaccine, with 42.4% considered adequately vaccinated (at least two doses). Protective immunity was developed by 96% of vaccinated participants, with 26.1% having immunity due to previous infection. The main reasons for vaccination hesitancy were the unavailability of vaccines 51.1%, others' reluctance time, and financial constraints. factors were cleaning, laboratory, nurse professionals

Conclusion: Our study showed a notably low prevalence of HBV infection explained by the presence of natural immunity acquired from previous infections. Furthermore, it highlights gaps in vaccine coverage among HCWs, with less than half of the recruited individuals being vaccinated. This study also showed an effective immune response to HBV vaccination among HCWs at MNH.

Recommendation: Ensuring consistent implementation of infection prevention and control measures, strengthened policies to improve HBV vaccinations among HCWs at MNH, implementing systems to accommodate the busy schedule of healthcare workers, constant availability of vaccines, and continued education on the importance of vaccines. A qualitative study to understand the cause of low vaccination coverage and tackle the reasons specifically

POSTER PRESENTATION

1. Unravelling Paediatric Bloodstream Infections: Antimicrobial Resistance and Risk Factors at Kilimanjaro Christian Medical Centre

Authors: **Mwinyi Shawwaly Omary**, Michael Bokobola, Joshua Mafipa, Adam Mwakyoma

Affiliation: Clinical laboratory-Kilimanjaro Christian Medical Centre

Background: Bloodstream infections (BSIs) in children represent a significant health challenge, particularly in resource-limited settings. This study investigates the epidemiology of BSIs at Kilimanjaro Christian Medical Centre, a Northern Zonal Hospital in Tanzania.

Objective: To assess BSIs in children under five, study prevalence, pathogens, resistance, and risk factors.

Methodology: A laboratory-based cross-sectional study was conducted from January to December 2023, encompassing 1,650 paediatric patients. Blood cultures were processed using Bactec system, with subsequent subculturing and biochemical testing for pathogen identification and antimicrobial susceptibility.

Results: Of the study population, 30% had BSIs, with a higher incidence in males and neonates. The predominant pathogen was coagulase-negative staphylococci, with notable resistance to Amoxicillin-clavulanate (89%) in gram-negative bacteria and Erythromycin (74%) in gram-positive bacteria. Resistance patterns included MRSA (79.6%) and MRCoNS (79.8%) for gram-positive, and ESBL-PE (66.7%) for gram-negative bacteria. A significant association between BSIs and neonatal age was observed (aOR: 0.224, 95% CI: 0.164-0.304, p-value: 0.023).

Conclusion: The high prevalence of BSIs and antimicrobial resistance highlights the urgent need for enhanced infection control and targeted antimicrobial stewardship in paediatric healthcare settings. These findings advocate for policy changes to mitigate the burden of BSIs and improve child health outcomes.

Recommendations: To mitigate the burden of bloodstream infections (BSIs) and improve child health outcomes, we recommend a multi-faceted approach. This includes maternal vaccination, intrapartum antibiotics, infection prevention and control measures, responsible antibiotic use, and ongoing research to inform evidence-based practices. Collaboration among healthcare providers, policymakers, and communities is crucial.

2. Occurrence of ESBL-PE causing bloodstream infections in children admitted at tertiary Hospital in Tanzania

Authors: **Anold Gerald Mushi**

Affiliation: Muhimbili university of health and allied science

Background: Blood stream infections(BSI) are infectious diseases defined by the presence of viable bacterial or fungal microorganisms in the blood stream,later on demonstrated by the positivity of one or more blood culture that elicited an inflammatory response characterized by the alteration of clinical,laboratory and hemodynamic parameters, ESBL-PE are associated with increased morbidity and mortality .unfortunately there are limited studied conducted in Tanzania about ESBl-PE among children with BSI .

Objective: To determine the prevalence, antibiotic resistance of Extended spectrum beta lactamase (ESBL) producers causing Blood stream infection (BSI) among children

Methodology: A cross-sectional hospital based study conducted between April 2023 to October 2023 at Muhimbili National Hospital, involved children with age range from 0-17years, the adjusted minimum sample size was 288.inclusion criteria all children with BSI and Exclusion criteria, adults and elders with BSI and Patients with incomplete informations. Patients demographic characteristics, clinical information, blood culture and antimicrobial susceptibility test result were recorded in a structured tool. Data were analysed

Results: A total of 940 children were enrolled in this study, median age of 0 (IQR=0-1), majority were <1 year of age 720(76.6%) , approximately more than half of them were male 549(58.4%). Prevalence of BSI among pediatric patients was 54.8% (515/940). Gram positive bacteria were predominant (54%;278/515). Among gram negative bacteria 36.5%(n=188) were Enterobacterales ,8.2%(n=42). The most predominantly Enterobacterales were K. pneumoniae by 102(54.3%), prevalence of ESBl was found to be 82.7%(n=153). There is notably higher level of resistance rate to routinely prescribed antibiotic for sepsis such

Conclusion: ESBL production among Enterobacterales causing BSI is high. The pathogen were highly resistant to ceftazidime compared to other antibiotics .The screening for ESBL among patients suspected with Blood stream infection caused by Enterobacterales should be implemented

Recommendation: Further studies should focus on plasmid encoding genes associated with ESBL.

3. Combatting Communicable Diseases: Strategies Addressing Antimicrobial Resistance in Public Health'

Author: Katisho Lutonja John

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: The rise of antimicrobial resistance (AMR) poses a significant threat to global public health efforts in combating communicable diseases. Addressing this challenge requires strategic interventions at various levels of healthcare systems. This abstract background highlights the urgency of implementing

effective strategies to curb AMR and prevent the spread of communicable diseases, emphasizing the importance of proactive measures in public health initiatives.

Objective: To evaluate and propose effective strategies for combating antimicrobial resistance in the context of communicable disease control and public health.

Methodology: The study employed a systematic literature review to assess existing strategies for combating antimicrobial resistance in communicable disease management within public health frameworks. Data sources included peer-reviewed journals, government reports, and international health organizations' publications. Relevant articles were identified, reviewed, and synthesized to extract key findings and recommendations

Results: The review highlighted various strategies to combat antimicrobial resistance (AMR) in communicable disease management. Key findings revealed the importance of antimicrobial stewardship programs, infection prevention and control (IPC) measures, and surveillance systems. Also, the study underscored the significance of public awareness campaigns and intersectoral collaborations. Effective implementation of these strategies is crucial for mitigating the impact of AMR on public health.

Conclusion: In conclusion, combating antimicrobial resistance (AMR) in communicable disease management requires a multifaceted approach involving antimicrobial stewardship, infection prevention and control, surveillance, and public awareness. Intersectoral collaborations are vital for successful implementation. Prioritizing these strategies is essential to mitigate the threat of AMR and safeguard public health.

Recommendations: Recommendations include strengthening surveillance systems, promoting rational antimicrobial use, enhancing infection prevention and control (IPC) measures, and investing in research for new antimicrobial agents. Public education campaigns should raise awareness about AMR and encourage responsible antibiotic use. Collaborative efforts among healthcare sectors and policymakers are crucial to combat AMR effectively.

4. Etiology and Susceptibility Pattern of Bacteria Causing Pneumonia Among Children Admitted at Pediatric ICU

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Pneumonia is the major public health concern and the major cause of higher morbidity and mortality in children admitted at PICU. However, there is relatively little information about the etiologies of such infection in ICU especially in low-income countries. Clinical diagnosis and radiological methods used for diagnosis of pneumonia have low accuracy compared to bacteriological results. Yet in Tanzania there is no study reported to identify bacteria causatives of pneumonia.

Objective: To determine etiology and susceptibility pattern of bacteria causing pneumonia among children admitted at pediatric ICU in MNH.

Methodology: The prospective hospital based cross-sectional study among children with signs and symptoms of pneumonia admitted at PICU, from April 2023 to July 2023. Sample size will be 185 and incubated in (BD BACTEC FX40). Subculture was done on BA, MCA and CA. Colonial morphology, gram staining and biochemical tests were used to identify pathogens then antimicrobial susceptibility testing.

Results: A total of 104 samples were collected, and 30 (28.8%) samples showed positive growth making a total of 48 bacterial isolates. The most common bacteria isolates were CONS and K. pneumoniae followed by S. aureus and E. coli. The most sensitive antibiotics to gram positive bacteria were Chloramphenicol, Tetracycline, Clindamycin and others were resistant. High rate of multiple antibiotic resistances was observed in Gram-negative bacterial species.

Conclusion: In this study the prevalence of positivity blood culture among children with pneumonia admitted at PICU in MNH was 28.8% which is still high.

Recommendation: To reduce high multidrug resistance levels, treatments should base on culture and sensitivity results and improve infection prevention and control (IPC) measures in the hospital environments and to come up with better ways to combat multidrug resistance, we recommend a largescale genetic investigation to identify the genes for antibiotic resistance.

5. Proportion of hospital-acquired infections among adult patients admitted at Muhimbili national hospital in Tanzania

Author: **Liberata Alexander Mwita**, Doris Isaac Chuwa

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Hospital-acquired infections (HAI) can occur in any healthcare setting and are related to the use of medical devices, complications of surgical procedures, transmission between patients and health workers, and antibiotic overuse. Once acquired, the length of hospitalization increases and also healthcare costs to an individual and country at large. Despite the increasing rates of HAIs, there are few published studies about the burden of HAIs in Sub-Saharan Africa including Tanzania.

Objective: To determine the proportion of HAIs at Muhimbili National Hospital.

Methodology: A descriptive cross-sectional study was carried out from March to June 2021, it included adult patients over 18 years of age who had been admitted at MNH wards for more than 7 days. Descriptive statistics using SPSS version 26 was used to analyze the data.

Results: The most frequent infections were bloodstream infections (38.6%), wound site infections (30.5%), urinary tract infections (22.7%), and bacterial pneumonia (18.6%). The surgery unit had the most of cases (16.3%) and HDU had the lowest cases (1.7%). Streptococci pneumoniae and Staphylococcus each caused 40% of wound site infections while Streptococci pneumoniae caused 75% of bacterial Pneumonia. For bloodstream infections, Staphylococcus and E. coli contributed 57.1% and 42.9% respectively.

Conclusion: The proportion of HAIs was highest in bloodstream infections and lowest in HDU. Some HAIs are contributed by microorganisms while others are associated with the use of medical devices.

Recommendation: Patient safety education and frequent training of all individuals involved in healthcare delivery will be critical to highlight awareness of the burden of HAIs. Similar research should be conducted in several Tanzanian hospitals to get a countrywide view of the burden. The healthcare workers need to be trained and followed on the practicing of infection prevention controls.

6. The revolution taking place in the nursing profession and its impacts on ethics and Professionalism

Authors: Redemptha Matindi, Dr. Deborah Bukuku, Priscilla G. Kinyamagoha

Affiliation: Muhimbili National Hospital

Background: Nursing is a noble profession that is also affected by transformations happening due to advancements on technologies and professional growth to fit in the standard required to move within the pace. Standards of nursing practices and ethical behavior observed among nurses and midwives have been portraying a sense of negativity and mistrust from the society they save. The need to find out where went wrong is very crucial from professionals themselves.

Objectives: 1. Revise conceptual framework and theories of nursing 2. Identify the gaps affecting the profession for mitigation 3. Develop best framework

Methodology: Metaanalysis on professional transformation studies will be done through search engine. Tool to obtain Research that will give details on changes in nursing will be included through literature review observing time of publications, where those which fit below ten (10) year will be picked and those which exceeds the suggested time will be excluded. The criteria will also observe published and none published researches. Data will be cleaned and analysed

Results: The research findings will entail to cover the objectives aimed to show that gaps and propose way to solve the problem in place. The narration and qualitative data will be used to form frame work which will guide professional policy makers and board that supervise practices and ethics of the profession to have base to control revolutions happening without detrimenting the identity for profession existence. The trends observed to change the profession will be avoided and adapting the paradigm shifting system.

Conclusion: Revolution for professional growth is inevitable. Nursing is undergoing huge transformation through it's historical existence. Morden Nursing started in 18th century by the founder of nursing Florence Nightingale from pre normal science. The religious monarch were dedicating there life to save the sick and poor. During Nightingale natural science worked but due to drift changes of profession has experienced crisis.

Recommendation: Revisiting our revolutional framework is very crucial following positive and negative impacts from technology advancement. We need to look on ideology introduced and outlay main identity for profession core We need to see where we crash from within..? Encourage nurses to conduct nursing related scientific researches for evidence based to support professional necesity otherwise will easly perish with technological advancement.

7. Health and Safety Risk Mitigation among Artisanal and Small-Scale Gold Miners in Zimbabwe

Authors: **Singo J**, Moyo D, Isunju JB, Bose-O'Reilly S, Steckling-Muschack N, Becker J,

Affiliation: University of Munich

Background: Artisanal and Small-Scale Mining is increasingly occupying a fundamental economic activity in Zimbabwe. However, the sector is characterized by a multiplicity of persistent hazards and a near absence of health and safety mitigation measures. Artisanal and small-scale gold mining (ASGM) is therefore associated with no or compromised attention to health and safety. Although headlines of fatal accidents in Zimbabwe characterize ASGM, there is blame on the sector with little attention to

Objective: This study, therefore, explores health and safety risk mitigation in ASGM in Zimbabwe to inform prevention strategies.

Methodology: This study addressed the phenomenon of health and safety risk mitigation in ASM through the qualitative research design. Focus group discussions and in-depth interviews were conducted with miners actively involved in ASM in Kadoma and Shurugwi. Focus group and in-depth interview guides were developed in English, translated to local languages, and tested in ASM in Kadoma and Gwanda in Zimbabwe.Data were analysed using thematic analysis, coding, and descriptive statistics.

Results: Reported factors contributing to compromised health and safety included immediate causes, workplace factors, ASM related factors, and contextual factors, with interconnectedness between the causal factors. In addition, factors related to ASGM were significant. For risk mitigation, formalisation, organisation of risk reduction, behaviour change, and enforcement of prevention strategies is proposed. A multi-causal analysis is recommended for risk assessment and accident investigation.

Conclusion: A multi-stakeholder approach could be considered for risk mitigation including community and public health interventions. However, risk mitigation has been characterised by gaps and weaknesses such as lacking ASM policy, lack of capital, poor enforcement, negative perceptions, and non-compliance.

Recommendation: A multi-stakeholder approach could be considered for risk mitigation including community and public health interventions. However, risk mitigation has been characterised by gaps and weaknesses such as lacking ASM policy, lack of capital, poor enforcement, negative perceptions, and non-compliance. Therefore, we recommend addressing the threats associated with health and safety mitigation to ensure health and safety protection in ASGM.

8. Entrepreneurship Theory and Practice in the Healthcare Value Chain in Tanzania: The Missing Link

Author: Binto, M. B.

Affiliation: The Mwalimu Nyerere Memorial Academy

Background: Scholars globally agree that entrepreneurship theory is a driving engine for the competitive execution of duties and responsibilities in highly dynamic contexts. Whereas effectively contextualized entrepreneurship theory has shown numerous benefits in the healthcare value chain in developing countries such as the United Kingdom, United State of America, and France, there is limited attention in the Tanzanian healthcare value chain context. The pattern predicts the existence of a knowledge gap.

Objective: To explore whether Tanzanian professionals working in the healthcare value chain have effectively contextualized entrepreneurship theory.

Methodology: The study was conducted in zonal referral hospitals such as KCMC, Bugando and Mbeya zonal referral hospitals in Tanzania, from January to March, 2024. It used in-depth interview and focus group discussion to collect information form participants. We used thematic analysis technique using MAXQDA qualitative data analysis software to analyze information aiming at establishing whether the practices of professionals in healthcare value chain in Tanzania effectively contextualizes entrepreneurship theory.

Results: Finding of in-depth interview with healthcare professionals revealed that, their practices has greater orientation towards income generation, employment creation, to mention a few. In a focus group discussion, it was found that academicians teaching entrepreneurship in health and allied sciences universities also gives greater emphasis to income generation and employment creation. In a key stakeholders' discussion, these findings were validated by students and practitioners, respectively.

Conclusion: Based on the study findings, we conclude that there is an emerging entrepreneurship theory and practice gap among professionals in the healthcare value chain in Tanzania due to the ineffective contextualization of the theory. Thus it causes the inability to demonstrate effective adaptability to dynamics

caused by emerging changes and development needs across the the healthcare-value chain in Tanzania.

Recommendation: Establish a centre for health entrepreneurship, innovations and healthcare operations support, which will play the role of mentoring and nurturing emerging health professionals' (youths) entrepreneurial tendencies. Also, forming a consortium of business, hospitals and health and allied sciences higher learning institutions for facilitating bridging the emerging gap through advocating an effective contextualization of entrepreneurship theory

9. The Role of REDCap in Improving the Quality of Data in Sickle Cell Research Program

Authors: **Frank Riessen Mtiiye**, Maria Lauda Joel Goyayi, Daniel Kandonga, Upendo Masamu, Raphael Z. Sangeda

Affiliation: Sickle Cell Programme, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania. Center for Applied Data Science, University of Johannesburg, Johannesburg, South Africa. Department of Pharmaceutical Microbiology, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania."

Background: Errors and inconsistencies in data transcription reduce data quality in medical research. Researchers previously relied on paper-based data collection methods, which limited data quality and efficiency. REDCap offers features to improve data accuracy and streamline processes; however, its effectiveness in practice requires evaluation. This study aimed to assess whether REDCap enhanced data quality and efficiency in sickle cell research compared to past data collection methods used in Tanzania.

Objective: To assess the contribution of REDCap in improving medical research in Tanzania.

Methodology: A mixed-methods approach with a descriptive design was conducted between August and September 2023 among 52 staff members at Muhimbili SCP in Dar es Salaam. Data were collected through an online survey in REDCap using a pre-tested structured questionnaire consisting of 18 knowledge questions. Regression analysis analyzed the relationship between a single dependent variable and several predictor variables. Statistical significance was set at $P < 0.05$.

Results: From August to September 2023, 60 staff members participated. 52 staff were included in the final analysis: operational staff 48 (92.3%) and senior staff 4 (7.7%). More than half, 29 (55.77%, P=0.04) of the participants strongly agreed that REDCap effectively facilitated data collection and significantly improved the consistency of the collected data. The majority, 32 (61.54%, P=0.001), strongly agreed that REDCap improved the accuracy of the data, while 31 (59.62%, P=0.001) decided that it contributed to improving the data completeness.

Conclusion: Standardized data collection through REDCap provides more accurate information and strengthens the research analysis. This study proves that the electronic data capture tool can improve data quality in sickle cell research and can be adopted by broader electronic data capture systems for reliability and usefulness in clinical research data.

Recommendation: To maximize the benefits of REDCap, this study recommends establishing robust data quality control. The validation rules guarantee data consistency and accuracy. This provides both new and existing users with the fundamentals of data management. In addition, it allows for complex study designs and makes data integrity and real-time data entry easier.

10. The Impact of ICTs in Enhancing Health Service Delivery: Consequences on the Millennium Development Goals

Authors: **Restituta T. Mushi**, Stella C. Sabi

Affiliation: Muhimbili University of Health and Allied Sciences and University of KwaZulu-Natal

Background: The appropriate use of Information and Communication Technologies (ICTs) has proven to be critical in socio-economic expansion regarding various aspects of health provision. ICTs provide cost-effective means of enhancing people's living standards, particularly the disadvantaged and rural communities.

Objective: This research articulates the contribution of ICTs in Tanzania's health sector since the nation's adoption of the Millennium Development Goals

Methodology: N=132 personnel from the Ministry of Health participated in the study by means of a survey while 10 senior government officials participated through interviews. The data were analyzed quantitatively using SPSS version-20 and Cronbach's Alpha statistic was used to test for validity and reliability of the data, yielding results that were all >0.7.

Results: The results show that the internet, computers, satellites, radios, mobile phones and Telemedicine were among the enabling ICTs in disseminating information on health services and in advancing the attainments of MDGs in the health sector. Based on Spearman's correlation, ICTs such as VCR/TV reinforced the monitoring ability in incidences of public health threats and response resulting in health service delivery effectiveness. Additionally, local radio stations influenced public awareness in marketing health-related programs. Conversely, the implementation stage of the ICTs

Conclusion: The study concludes by highlighting the prospects for ICTs in enabling the Tanzanian government to achieve the consequent 2030 sustainable development goals.

Recommendation: The absence of ICT policy in MoHSW leads to the poor coordination of proposals, random acceptance of different systems and standards, unnecessary duplication of effort, and waste of scarce resources in the health sector. Therefore, the formulation of specific ICT policies in the Health

Ministry would ensure the correct use of the available ICT facilities and infrastructure

11. Caregiver's Experiences and Coping Strategies in Caring for Cervical Cancer Patient Receiving Chemoradiotherapy at ORCI

Author: **Nasriya Nassor**, Peter Wangwe, Ali Said, Nazima Dhersee

Affiliation: Muhimbili university of health and allied science (MUHAS)

Background: Cervical cancer is a significant health concern for women worldwide, with more than 90% of cases occurring in developing countries. Tanzania has one of the highest burdens of cervical cancer in Africa, with limited access to screening and treatment services. Caregivers play a vital role in supporting cervical cancer patients but often face challenges due to available limited resources.

Objective: This study aimed to explore caregiver's experience and coping strategies in caring for cervical cancer patients receiving chemoradiotherapy at ORCI.

Methodology: A phenomenological qualitative study was conducted among caregivers caring for cervical cancer patients on treatment at ORCI. The study utilized purposive sampling and collected data through in-depth interviews (IDI), recordings, and field notes using an IDI guide. Audios were verbatim transcribed and triangulated with field notes. Thematic content analysis was done, wherein line coding was conducted and aggregated into sub-themes and eventually themes.

Results: Three key themes were revealed in cervical cancer patients' caregiving. The first theme is perceived threats of cancer diagnosis and its treatment as a death sentence, mixed perception about cancer treatments, and lack of knowledge on how cancer is acquired. Second, caregivers' challenges, include economic constraints, difficulties navigating cancer care, and uncomfortable patient interactions with the caregiver. Lastly, coping strategies like seeking solace in religion, family support, and positive reinterpretation were discussed. These themes highlight the complex dynamics in caregiving for cervical cancer patients.

Conclusion: The findings of this study revealed the multifaceted challenges of caregiving for cervical cancer patients along with the coping strategies, Additionally, emphasizing the need for comprehensive support systems and interventions.

Recommendation: "1. Provide emotional support to caregivers through support groups, forums, and counselling sessions. 2. Alleviate financial stress by offering aid via hospital donations and NGOs. 3. Further studies should be done to disseminate accurate information about cervical cancer and its treatments, dispelling myths and raising awareness. These recommendations aim to enhance the caregiving experience and support system."

12. Medicinal Plants Used to Treat Peptic Ulcer Disease in Missenyi and Kyerwa Districts, Kagera, Tanzania

Authors: **Judith K. Costantine**, Raphael Z. Sangeda, Deborah K. B. Runyoro

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Peptic ulcer disease (PUD) is a common global health problem that affects many people worldwide, contributing to morbidities and mortalities. However, there are no effective medications to date, and those available are not cost-effective and prone to resistance, tolerance, relapses, side effects, and adverse events. Therefore, alternative medications should be identified.

Objective: To document the medicinal plants used to treat Peptic Ulcer Diseases in the Missenyi and Kyerwa districts in Kagera, Tanzania

Methodology: A cross-sectional survey study was conducted through face-to-face interviews guided by a semi-structured questionnaire; in four villages of the Missenyi and Kyerwa districts in Kagera Region, Tanzania. The information obtained included the awareness of the informants about PUD, its symptoms, and its management using medicinal plants.

Results: Thirty informants were interviewed, and 20 medicinal plants from 16 families were documented. The informants' knowledge of PUD was poor. The adjuvants used include water, honey, raw eggs, milk, and black tea decoctions. Most informants recommend a dose equivalent to 250 mL, eight hours a day, for three months. Literature supports the claimed ethnomedical use of the adjuvants and 75% of the documented plants. Myrica salicifolia was claimed to be associated with side effects that worsen in children aged 0-5.

Conclusion: A considerable proportion of the population in Tanzania still depends on medicinal plants to treat various ailments. The use of the majority of the plants documented in this study has a literature backup, while some are reported for the first time. Also, the safety of medicinal plants is not guaranteed, as the majority of informants seem not to bother.

Recommendation: Since some plants are reported for the first time in this study and M. salicifolia is associated with side effects, we recommend that their activity, safety, and efficacy be studied and that more extensive ethnopharmacological surveys be conducted in the study area and other places to avoid the loss of valuable information, as many plants are yet to be explored.

13. The Neuroprotective Activity of Phenolic Compounds from Philippine Oregano Against Cognitive Impairment in Mice

Author: **Sheila Mae P. Tiamzon**, Ma. Andrea Leticia D. Abad, Ariane Joy M. Beltran, Elmira Angela D. L. Biglang-awa, Danna Martina A. Escalona, Ma. Andrea Leticia D. Abad, Kristine Mae C. So, Omar A. Villalobos, Crislee M. Torio

Affiliation: University of Santo Tomas

Background: With the rising prevalence of cognitive impairment among the aging Filipino population, there is a greater need for better awareness, prevention, and treatment options. This study explored the physicochemical properties of Philippine Oregano (Coleus amboinicus), quantified its total phenolic and flavonoid content, and assessed its neuroprotective activity in scopolamine-induced cognitive impairment in Swiss Albino mice using the Radial Arm Maze test and Amyloid-ß (Aß) plaque level determination.

Objective: To determine the neuroprotective activity of the phenolic compounds in oregano on mice with scopolamine-induced cognitive impairment.

Methodology: To characterize the phenolic compounds in Coleus amboinicus (oregano) leaves using color reaction tests and Thin Layer Chromatography (TLC). To determine the total phenolic and total flavonoid content of the oregano leaves extract. To determine the neuroprotective activity of the phenolic extracts from oregano leaves on mice using Radial Arm Maze test, and Amyloid-ß (Aß) plaque level determination.

Results: The results showed that the Coleus amboinicus extract exhibited high solubility in ethanol (RF value: 0.9125). Total Phenolic Content and Total Flavonoid Content were determined (422.9 ± 0.02108 ppm GAE/µL and 91.40 ± 0.01127 ppm QE/µL). The Radial Arm Maze (RAM) assessed cognitive performance in mice. Microscopic examination revealed amyloid plaques exclusively in scopolamine-induced mice groups (2, 3, 4, 5). Donepezil monotherapy was ineffective in Group 2, while low concentration Coleus amboinicus extract notably improved cognitive impairment, outperforming d

Conclusion: After eight days, the Acquisition Trial showed a significant difference, indicating mice could distinguish baited arms. The Retention Trial showed reduced movement, with longer Acquisition times. To conclude, Coleus amboinicus showed no significant neuroprotective effects in scopolamine-induced cognitively impaired mice. However, low-dose oregano extract showed potential benefits, with fewer amyloid plaques and Retention Mean Time.

Recommendation: To further improve this study and deepen the understanding of the neuroprotective activity of Coleus amboinicus to discover additional key findings, the researchers recommend to cover the ends of the arms of the maze to reduce the escape behavior of mice, addition of doors in the maze for better orientation, and utilize Congo Red staining for amyloid plaque determination.

14. Assessment of ANTI-DIABETIC ACTIVITIES and TOXICITY LEVEL of Smallanthus Sonchiofolius ROOT and Persea American SEED concontion

Authors: **Fraziana Gerald**, John E. Matata, Latifa Juma

Affiliation: National Institute for Medical Research (NIMR)

Background: Diabetes mellitus, a chronic disease characterized by elevated blood glucose, leads to significant damage to the heart, blood vessels, eyes,

kidneys, and nerves. With 422 million affected globally, predominantly in low- and middle-income countries, and 1.5 million deaths annually, the search for treatments with fewer side effects is crucial. In Tanzania, 12.3% of adults had diabetes in 2021. Plant extracts, such as avocado seeds and yacón roots, offer promising alternatives.

Objective: Ethanol extracts of Persea Americana (avocado seed) and Smallanthus Sonchiofolius (root) at 300mg/kgBw were administered orally to male albino mice.

Methodology: The results demonstrated that the combination of Persea Americana (PASE) and Smallanthus Sonchiofolius (SSRE) showed significant synergistic and antagonistic effects, effectively inhibiting hyperglycemia with $LC_{50} > 100 \mu g/ml$, indicating low toxicity. The combination treatment significantly reduced blood sugar levels compared to controls. The differences in blood glucose levels before and after treatment were statistically significant, highlighting the potential of these plant extracts as safer alternatives for managing diabetes.

Results: The study found that the combination of Persea Americana (PASE) and Smallanthus Sonchiofolius (SSRE) extracts synergistically lowered blood glucose levels more effectively than either extract alone. However, toxicity analysis revealed that the combination exhibited increased toxicity. Further research is necessary to understand the mechanisms, safety, and potential applications of these extracts and their combination in diabetes treatment

Conclusion: Based on the findings, it is recommended to conduct further research to explore the mechanisms behind the synergistic effects of Persea Americana (PASE) and Smallanthus Sonchiofolius (SSRE) in lowering blood glucose levels. Additionally, comprehensive toxicity studies in various animal models are necessary to ensure the safety of these extracts. If proven safe, these plant extracts could be developed as alternative

Recommendation: It is recommended to conduct further research to explore the mechanisms behind the synergistic effects of Persea Americana (PASE) and Smallanthus Sonchiofolius (SSRE) in lowering blood glucose levels. Additionally, comprehensive toxicity studies in various animal models are necessary to ensure the safety of these extracts. If proven safe, these plant extracts could be developed as alternative treatments for diabetes.

15. Clinical Teaching and Learning for Nursing Students: The co-creation of learning and action through participation

Authors: Andrew Mclellan, **Joel Ambikile Seme**, Masunga Iseselo, Sofia Sanga, Ummy Msenga, Shamila Mwanga, Sebatian Semotine

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Both theoretical and practical preparations are essential components of Competency-Based Curricula in nursing education, with students

often spending 40-60% of their time in the clinical learning environment. Clinical instructors frequently encounter challenges in linking abstract curricular competencies to the clinical context, where the demonstration of competence relies on performing key tasks or activities. The pre-implemntation study objective was to address this gap through a Participatory Learning and Action (PLA) methodology.

Objective: The study aimed to generate context-specific knowledge and trial a process to improve clinical nursing education in mental health.

Methodology: A learning and action team was assembled, consisting of nursing faculty, graduate nursing students, and nursing clinical instructors from both Muhimbili University of Allied Sciences and Muhimbili National Hospital. Through a PLA four-cycle process of learning, knowledge generation, and analysis, the team co-selected and co-developed a continuous competency-based clinical monitoring and evaluation approach.

Results: Entrustable Professional Activities (EPAs) represent a significant shift in clinical education, aiming to seamlessly integrate curricular competencies with real-world practice activities. EPAs focus on discrete clinical tasks, encapsulating the knowledge, skills, and attitudes crucial for professional practice. Unlike traditional competency assessments, EPAs shift the focus from assessing individual competencies to evaluating comprehensive clinical activities, thereby providing a clear roadmap for clinical teaching and learning. This approach ensures that clinical education is truly competency-based—flexible, accountable, and student-centered—rather than time-based.

Conclusion: Through dialogue and partnership between academic and clinical facilities, our study demonstrates the potential of PLA methodologies in optimizing and aligning clinical teaching and learning within competency-based curricula. These findings underscore the importance of collaborative engagement in addressing the complexities of clinical education, ultimately contributing to the advancement of nursing practice and education across diverse contexts.

Recommendation: Describes how PLA methodologies integrated EPAs into competency-based clinical nursing education, enhancing student autonomy and bridging theoretical knowledge with practical skills. Showcases an innovative strategy that transforms clinical education into a flexible, accountable, and student-centered experience, preparing future nurses for real-world challenges.

16. Effects Of Sickle Cell Disease On Academic Performance In Children Aged 5-12 At Mwananyamala Hospital.

Authors: **Princess Bibiannah Ceaser**, Dr. Zahra Morawej

Affiliation: Kairuki University

Background: Sickle cell disease (SCD) has been associated with poor quality of life, including absences from school which negatively impact academic performance. Understanding the interplay between SCD and academic

performance is crucial for tailoring effective support and interventions to enhance the scholastic outcomes of children living with SCD.

Objective: To determine the prevalence and determinants of poor academic performance among children aged 5-12 years with SCD at MRRH.

Methodology: This was a descriptive cross-sectional hospital-based study using convenience sampling. SCD patients attending the Outpatient clinic at MRRH were interviewed using structured questionnaires after obtaining their consent/assent. Data was collected for a period of four weeks from October to November 2023 and analyzed using both Microsoft Excel and SPSS.

Results: A total of 52 participants, aged 7 to 10, were surveyed at MRRH. Most households had incomes between 300,000 and 900,000 Tsh. All subjects were treated with Hydroxyurea and experienced 2-4 painful crises annually. Cognitive abilities were mostly below average, with attention and memory issues common. Academic performance was negatively affected in 40.38% of cases, with some receiving extra educational support. Psychosocial well-being varied, but most fell within the average range. Family support was generally moderate to strong.

Conclusion: The study focuses on the difficulties that children aged 7 to 10 with SCD encounter, highlighting a wide range of cognitive capacities, medical backgrounds, and psychosocial issues.

Recommendation: It is recommended to implement personalized support programs, therapeutic plans, educational interventions, and family assistance to improve the quality of life for these children.

17. Reviewing localized and metastatic breast cancer trends at Ocean Road Cancer Institute from 2012 to 2018

Authors: **Enock Lugaila**, Frank Msafiri

Affiliation: Muhimbili University of health and allied sciences, T-MARC Tanzania

Background: In Tanzania, breast cancer is the second most prevalent cancer in women, accounting for 14.4% of all female cancers, following cervical cancer. Research indicates that early detection significantly improves prognosis. Stakeholders in Tanzania have established infrastructure to combat the disease and promote early detection and improved disease outcomes.

Objective: This study examines breast cancer trends at ORCI from 2012 to 2018, emphasizing localized and metastatic cases.

Methodology: A retrospective study design was utilized to analyse breast cancer trends between 2012 and 2018, capturing the prevalence of localized and metastatic cases. 293 files of women receiving treatment for breast cancer at Ocean Road Cancer Institute were enrolled. Data was collected using a structured questionnaire, and analysis was conducted using SPSS version 20. The results will be presented descriptively.

Results: 87.7% of participants were aged 35 years and older. Approximately 80% of these women were found to have stage 4 metastatic breast cancer, while nearly 95% were diagnosed with late-stage cancer (stages III and IV) at the time of diagnosis. The prevalence of metastatic breast cancer varied, ranging from a low of 51.7% in 2013 to a high of 89.5% in 2017. Additionally, peri-menopausal, and post-menopausal women had a higher prevalence (60.4%) compared to other age groups.

Conclusion: Late detection of breast cancer remains a significant public health concern, highlighting the necessity for advocacy in promoting early self-examination and clinical screening, as well as enhanced diagnosis, care, and treatment to enhance quality of life.

Recommendation: Tanzania requires increased resources and strategic plans to potentially enhance early detection by fostering collaborations between government and non-governmental organizations

18. Would Utilization of U-Score Predict the Outcome of Patients Undergoing Anterior Urethroplasty at MNH?

Author: Salim N. Sobbo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Urethral stricture is a common condition, with a higher incidence in developing countries. Urethroplasty is a reconstructive surgical treatment for anterior urethral stricture. U-score is a tool that utilizes stricture's length, location, number and etiology to define and quantify its attributes hence enabling preoperative prediction of the required type of urethroplasty's complexity and treatment outcomes

Objective: To evaluate the surgical complexity and outcome of anterior urethroplasty using the U-Score for patients undergoing urethroplasty at MNH

Methodology: A retrospective Cross sectional study

Results: We conducted a retrospective cross-sectional study, reviewing patient records from 2018 to 2022, which included patients diagnosed with anterior urethral stricture who underwent anterior urethroplasty at MNH. We extracted the length, location, number, and etiology of the stricture from patients' records, and assessed the duration of hospital stay, surgical complexity, and postoperative complications as outcomes of interest.

Conclusion: We report an association between a higher U-score and anterior urethroplasty outcomes, indicating a substantial influence of the U-score on its predictive capacity for surgical complexity and postoperative complications for patients with anterior urethral stricture. Therefore, the U-score can aid in risk stratification and perioperative counselling

Recommendation: Based on the study findings and discussion, I would recommend the utilization of Urethral stricture score (U-Score) for MNH patients who present with anterior urethral stricture who are expecting to undergo anterior urethroplasty at MNH. This will help in perioperative patients counselling and predict surgical complexity and post operative complications.

19. Mediators of Disability Quality of Life Among People Living with Psychotic Disorders Participating Family Psychoeducation

Author: **Joseph R. Egger**, Anna Minja, Kayla Hendrickson, Madeline Jin Van Husen, Praxeda Swai, Paul Lawala, Beatrice Thadei, Sylvia Kaaya, Joy Noel Baumgartner

Affiliation: Muhimbili University of Health and Allied Sciences

Background: People living with psychotic disorders (PLWS) may experience disability across multiple functional domains. This can lead to a reduction in functional outcomes, such as maintaining employment, and/or social relationships. KUPAA is a culturally adapted version of Family Psychoeducation, an evidence-based practice that is effective at improving functional outcomes (e.g. disability, quality of life). The mechanisms by which KUPAA works to improve outcomes remain unclear.

Objective: Identify mechanisms by which the KUPAA intervention reduces disability and improves the quality of life among care-seeking PLWS in Tanzania.

Methodology: The study was conducted at Muhimbili National Hospital and Mbeya Zonal Referral Hospital. A total of 66 dyads composed of individuals living with schizophrenia and their matched caregivers participated. PLWS participants were ages 18-50 years at enrolment, were attending outpatient services, and had relapsed within the past year. Analyses focused on estimating the indirect effects of the KUPAA intervention through the mediated pathways of hope, internalized stigma, and generalized self-efficacy.

Results: A significantly greater decrease in mean disability score and increase in quality-of-life score was observed among KUPAA participants, compared to controls during the one year of follow-up. Results indicate that all three potential mediators: hope; generalized self-efficacy and self-stigma, contribute to how KUPAA influences disability and quality of life. Generalized self-efficacy mediates 33% of the effect of KUPAA on quality of life and generalized self-efficacy and hope each mediates 36% of the effect of KUPAA on disability.

Conclusion: The results of this study provide preliminary support for the hypothesis that a family-based psychoeducational intervention can reduce disability and improve quality life by reducing stigma, increasing hope, and building generalized self-efficacy. This is the first FPE-based intervention among PLWS in Africa to investigate the mechanisms by which FPE may act to reduce disability and improve the quality of life among PLWS.

Recommendation: Family psychoeducation interventions like KUPAA should be tailored to focus on reducing stigma, increasing hope and fostering self-efficacy. Future work should enroll a larger PLWS cohort and measure changes in psychosocial characteristics and functional outcomes earlier and more frequently after initiation of treatment to better and more precisely estimate the sequencing of mechanisms of these causal processes.

20. Early post-cardiac surgery mortality, Associated Risk Factors among Children with heart diseases at JKCI

Authors: **Emmy Mbilinyi**, Deogratias Nkya, Robert Moshiro, Naizhijwa Majan

Affiliation: Muhimbili University of health and allied sciences

Background: Open heart surgery is a life-saving curative or palliative intervention for the majority of children with cardiac conditions. Despite the technological advancement in open heart surgery, these interventions carry a significant risk of mortality and morbidity, especially in low- and middle-income countries.

Objective: To determine the early mortality (30 days) and the associated risk factors among children who underwent heart surgery from 2018 to 2022.

Methodology: This was a hospital-based retrospective cohort study. All medical records of children and adolescents with heart conditions operated at Jakaya Kikwete Cardiac Institute were reviewed. A checklist/data collection form was used to extract information from the medical records.

Results: 715 children had open-heart surgery with a median age of 3(0-17) years, 399(88.5%) had CHD. 63(8.8%) patients died, the total follow-up time was 8803 days and the mortality rate was 7.2(95%CI: 5.59- 9.16) per 1000 person. Patients with arrhythmias had a 2.8 times higher hazard of mortality (p = 0.002) and patients who were mechanically ventilated more than 24 hours after surgery had a 6.1 times risk of mortality (p<0.002). The commonest cause of death was Arrhythmias(28.6%), AKI(23.8%) and respiratory failure(19%).

Conclusion: The early post-open cardiac surgery mortality rate was 8.8%. Arrhythmias and duration of ventilation more than 24 hours after surgery were associated with mortality.

Recommendation: Early identification, stratification, and management of arrhythmias, acute kidney injury, and respiratory complications.

21. NKX2.5 coding exons sequencing reveals novel non-synonymous mutations in patients with sporadic congenital heart diseases

Author: **Emmanuel Suluba**, James Masaganya, Erasto Mbugi, Mwinyi Masala, Jackline Mathew, Henry Mruma, Liu Shuwei.

Affiliation: Shandong University, Shandong, China; Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania; Sokoine University of Agriculture, Morogoro Tanzania. Jakaya Kikwete Cardiac Institute, Dar es Salaam, Tanzania.

Background: The evolutionarily conserved homeobox transcription factor NKX2.5 has been at the forefront in the field of cardiac biology, providing molecular insights into the mechanisms of cardiac development and disease. Several studies have been conducted on Caucasian populations, but there is a lack of knowledge on the effects of NKX2.5 gene mutations in other settings, highlighting the need for further investigation.

Objective: We aimed to determine the NKX2.5 transcription factor gene mutations in patients with sporadic congenital heart diseases

Methodology: In this study, we sequenced exon 1 and exon 2 of NKX2.5. SNPs were then analyzed by computational methods to determine whether they were pathogenic or non-pathogenic, using available insilico analysis software tools.

Results: We found a novel frameshift disease-causing mutation: c95_95 del A; cDNA.369-369 delA; g 369-369 delA, which resulted in phenylalanine to leucine (F295L) substitution in patients with atrial-ventricular septal defect, which resulted in a truncated NKX2.5 protein. A non-synonymous mutation g 316C>T; cDNA 316C>T Leucine to Arginine (L37R) substitution was found in a patient with the tetralogy of Fallot affecting protein function. None were found among the control subjects

Conclusion: Mutations in the NKX2.5 gene are associated with congenital heart diseases and provide molecular insight into the pathogenesis of congenital heart diseases.

Recommendation: We recommend that patients with NKX2.5 mutations have regular screenings for cardiac conduction abnormalities and be assessed for potential implantation of cardiac defibrillators and pacemakers

22. Lived experience on Adjuvant Hormonal Therapy among breast cancer patients at ORCI, Tanzania.

Author: Thereza Gideon

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Adjuvant Hormonal Therapy (AHT) is the systemic given to breast cancer patients with positive estrogen and progesterone receptors. 20-50% of all patients on AHT are non-adherers regardless of good impact of the treatment on reducing the risk of disease recurrence and mortality. Different interventions should be employed by both patients and healthcare providers towards improving adherence to medication.

Objective: To explore the lived experience on Adjuvant Hormonal Therapy among breast cancer patients at ORCI Dar-es-salaam, Tanzania.

Methodology: A qualitative design using phenomenological approach was employed.12 Interviewees using Adjuvant Hormonal Therapy for more than one year were purposefully selected among breast cancer patients aging 18 years and above on regular followup at ORCI breast cancer clinic. Indepth interview was used using probing questions from a structured Interview guide. Interview was audio recorded and transcribed verbatim data was analysed using content analysis.

Results: There is little knowledge on Adjuvant Hormonal Therapy side effects and adherence among breast cancer patients while lack of Health Insurance (out of pocket expenses) on purchasing the medications, burden of treatment side effects without seeking assistance, advice and support from healthcare providers was among the mentioned factors toward hindering adherence to medication. Fear for disease recurrence and role relationship (mother role in taking care of children and family) has promoted good adherence to medication.

Conclusion: AHT affects patient's beliefs, actions, health, and well-being. Patients and Healthcare providers can make better judgments, maximize adherence, and achieve better therapeutic outcomes by incorporating first-hand experience with the medications into clinical decision-making. The necessity of AHT feels more urgent among women struggling with the fear of cancer recurrence but brings uncertainty with the Experience of unanticipated symptoms.

Recommendation: 1. Adequate knowledge of AHT adherence should be provided among breast Cancer patients with subsequent follow-up visits. 2. Providing education on the importance of Health Insurance among breast cancer survivors on long-term treatment (AHT) which renders 5-10 years, which will ensure adequate follow-up for different services including follow-up investigations and medications.

23. Understanding pathophysiology in moderately malnourished children with acute illness receiving one of three food supplements

Author: **Upendo Kibwana**, Sarah Somji, Rodrick Kisenge, Christopher Sudfeld, Christopher Duggan, Ameena Goga, Ayesha De Costa, Agnese Iuliano, Nigel Rollins, Karim Manji

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Despite the large global burden of child undernutrition that is due to inadequate diet as seen in the framework, its aetiology remains largely unknown. In children presenting with moderate malnutrition and acute illness who are receiving one of three supplements (locally available foods, microbiota directed complementary food/ready-to-use supplementary food), to understand pathophysiological processes and the responses to nutrition interventions and the complex pathways affecting this high-risk cohort.

Objective: Compare changes in microbiome taxa, proteome markers, and environmental enteric dysfunction biomarkers; in fat and fat-free mass by nutrition intervention.

Methodology: Children part of another trial (nutritional supplement) will be offered enrolment in this study too and a comparator healthy reference cohort (HRC), enrolled from 5-6 months of age. This HRC will be recruited in each catchment population to define "healthy" microbiome taxa and plasma proteome. Samples including blood, stool, and saliva will be collected from both cohorts at different time points to compare.

Results: We just began enrollment of this study. Those enrolled in a nutritional supplement study are also asked for consent to be part of this study. Body composition assessments and blood samples will be performed at enrolment, 12, and 24 weeks of study; stool samples will be collected at enrolment and at 2, 6, 12, and 24 weeks of study. The HRC will be followed up at 9, 12, 15, 18, 21, and 24 months of age.

Conclusion: Blood draws are always a tricky aspect especially in pediatric research settings. Building a rapport with the mother, counselling her about the study as well as involvement from the father are key components for the success of the study. Additionally, the processing and transport of the samples are important aspects in addition to quality data and bedside manner.

Recommendation: Once the study is complete and samples are analysed, the results will be shared

24. Predictive Factors for Prosthetic Fitting After Diabetic Foot Amputation at a Tertiary Hospital.

Authors: **Edmund Mujuni**, Larry Akoko, Kitembo Salum Kibwana

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Amputations are frequently performed as a life-saving procedure in underdeveloped nations due to trauma, infection, uncontrolled diabetes mellitus and malignancy. Diabetes is a major contributing factor to lower limb amputation. Prosthetic rehabilitation plays a crucial role in restoring functional mobility and enabling amputees' independence and re-engage in their communities. Lack of access to prosthetic rehabilitation causes significant effects mobility from limb loss, which affect their overall quality of life.

Objective: To determine factors that predict prosthetic fitting of diabetic foot amputees at Muhimbili National Hospital Complex.

Methodology: This was a cross-sectional study among diabetic lower limb amputees at Muhimbili. Patients were included if they had unilateral limb amputation, healed stump and provide consent to be interviewed. Variables collected included demography and clinical characteristic using a predefined online data platform (RedCap), Analysis was conducted using SPSS 27 to establish

prosthesis fitting rate and factors associated with it among amputees. A significant association was considered when P-value < 0.05.

Results: A total of 146 diabetic foot amputees met the study criteria and were included with a mean age of 55±8.6 years majority of which were ≥55 years at 81(55.50%) of study participants. Most of the patients were male at 88(60.03%), referred 21(14.4%), educated on prosthesis 28(19.2%) and early physiotherapy recipient 58(39.7%). Only 17(11.6%) of the patients had a foot prosthesis fitted. Age <55, female sex, education of prosthesis, attending physiotherapy, and referral to prosthesis being significant predictors.

Conclusion: Prosthetic rehabilitation rates are low, 1 in 10 patient receiving prosthetic fitting among diabetic limb amputees at Muhimbili. There are low referral rates for prosthetic fitting among limb amputees at this facility and this needs to be addressed. Only 50% of referred patients g prosthesis.

Recommendation: A study on prosthetic fitting and provision among diabetic foot amputees at this facility aims to raise awareness of these services, enhancing access to prostheses. A larger prospective study should investigate associated services like physiotherapy and prosthesis education to improve prosthesis access for patients, ensuring comprehensive prosthetic rehabilitation at this facility.

25. Dental caries risk profile and Associated Oral health-related quality of life among primary school children

Author: **Steven Mwanshuli**, Hawa Mbawalla, Shadia A. Majid

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Dental caries, a prevalent oral health issue in children, results from an interaction between various risk, clinical, and protective indicators. However, these factors are often not integrated to form caries risk profile, hindering effective prevention. The findings will provide baseline data on the burden of dental caries risk factors, caries risk profiles, also help on interventions and strategies to enhance oral health for children in primary schools.

Objective: This study aims to identify the dental caries risk profile and its association with oral health-related quality of life (OHRQoL)

Methodology: A cross-sectional study will be conducted with 329 children aged 9 to 11 years, selected through multistage stratified cluster random sampling. Parental consent will be obtained. Caries risk was assessed using the questionnaire which enquired socio-demographic data, oral health behaviors, knowledge about dental caries, and OHRQoL. Clinical examination assessed dental plaque scores and dentition status. Data was analyzed using SPSS version 26, focusing on frequencies, proportions, and associations between caries

Results: The study involved 348 child-caretaker pairs 192 (55.2%) females, 156 (44.8%) males. The most protective factor was the use of fluoridated toothpaste (37.1%). Non-cavitated caries lesions on permanent teeth (31.6%) highly

presented as a disease indicator while snaking thrice or more per day was a common risk behavior for caries. The majority, 76.4%, of the participants were in the high caries risk group of children, while only 4.3% had low caries risk.

Conclusion: For effective prevention of high caries risk, it is essential to increase the use of dental caries protective indicators and reduce clinical, medical, and behavioral risk indicators together with disease indicators among primary school children in Dar es Salaam.

Recommendation: It is important to promote the use of all dental caries protective indicators especially fluoridated toothpaste but also caretakers and parents of school children should address behavioral risks such as frequent snacking.

26. Burden of Cognitive Impairment and Associated Factors Among Rheumatic Heart Disease Patients at Jakaya Kikwete

Authors: Moses Mlawa Lazaro, Reuben Mutagaywa, Peter Kisenge.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Globally, Rheumatic Heart Disease (RHD) affects 30 to 70 million people, with 90% in developing nations. In Tanzania, the RHD burden is 1-3%. Patients with RHD show neuropsychiatric manifestations like cognitive impairment (CI) with an effect on quality of life, but research in Tanzania is lacking.

Objective: To determine the burden of CI and its associated factors among RHD patients at Jakaya Kikwete Cardiac Institute (JKCI).

Methodology: A hospital-based cross-sectional study was conducted at JKCI from November 2023 to February 2024. A sample of 216 RHD patients aged ≥ 14 years provided informed consent or assent. Excluding those with pre-existing mental illness, recruitment used consecutive sampling. A questionnaire collected socio-demographic and clinical data. GPCOG tool assessed cognitive impairment. Data analysis employed STATA version 15.1. Ethical approval was obtained from MUHAS and JKCI Research and Ethics Committee.

Results: A total of 216 patients diagnosed with RHD, the majority were outpatients (76%), with a median age of 27 years and a female predominance (51.4%). Over half had attained secondary education or higher (56.9%), 58.8% were insured, and 40.7% were employed. Substance use was notable with 5.6% cigarette smokers and 28.2% alcohol drinkers. Cognitive impairment prevalence was 20.4%, associated independently with factors including old age (aPR=1.04), positive HIV status (aPR=5.00), undernutrition (aPR=2.44), atrial fibrillation (aPR=3.16), and stroke history (aPR=2.58).

Conclusion: We have found a high prevalence of cognitive impairment among patients with RHD. The independent associated factors of cognitive impairment were old age, positive HIV status, undernutrition, history of atrial fibrillation and history of stroke.

Recommendation: We recommend all patients with RHD should be screened for cognitive impairment, specifically in patients with atrial fibrillation, positive HIV status, old age, undernutrition, and stroke.

27. Prevalence and Risk Factors for Pericardial Diseases Among Patients Undergoing Echocardiography at JKCI and MNH

Subtheme: Non-Communicable Diseases, Mental Health, Surgery and Nutrition

Author: **Elia Stewart**, Eden Maro

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Pericardial diseases encompass various conditions affecting the pericardium, caused by infectious and non-infectious factors. In developing countries, tuberculosis, often linked with HIV, is the leading cause, while viral and idiopathic pericarditis dominate in developed regions. The prevalence is rising in sub-Saharan Africa due to the HIV pandemic and associated TB. Local data on pericardial diseases and their risk factors is lacking, aside from studies on TB/HIV and pericardial diseases.

Objective: To determine the prevalence and risk factors for pericardial diseases among patients undergoing echocardiography at MNH and JKCI.

Methodology: This analytical, prospective cross-sectional study was conducted over four months, recruiting 1,729 patients undergoing echocardiography at MNH and JKCI. Data on demographics, clinical, laboratory, radiology, and echocardiographic parameters were collected using structured questionnaires. SPSS version 23 was used for data analysis, with binary logistic regression identifying risk factors for pericardial diseases. Variables with $p < 0.2$ in univariate analysis entered multivariate analysis; $p < 0.05$ was statistically significant.

Results: The study examined 1,721 patients (mean age 46 years, SD 23 years; 53.6% women). Pericardial disease prevalence was 6.4%, affecting 110 patients. Pericardial effusion was most common (87.3%), followed by effusive constrictive pericarditis (8.2%) and constrictive pericarditis (4.5%). Heart failure (HF) (49.1%) and tuberculosis (20.9%) were prominent risk factors, along with congenital heart diseases (14.7%), malignancies (10.9%), pulmonary hypertension (10.9%), post-chest surgery (5.4%), and autoimmune diseases (3.6%). Multiple risk factors were present in one-third of patients, with HF being among them.

Conclusion: Pericardial diseases are relatively common among patients undergoing echocardiography, with heart failure followed by tuberculosis being the predominant risk factor. Mild pericardial effusion is the predominant type. Nearly one-third of patients had multiple risk factors, highlighting the need for comprehensive therapy and primary prevention to address the interplay between cardiovascular diseases, systemic illnesses, and pericardial health.

Recommendation: Healthcare practitioners should prioritize vigilance for pericardial diseases, especially in patients with risk factors like tuberculosis,

heart failure, and congenital heart diseases. Timely identification and treatment are crucial to prevent complications. Further research and longitudinal studies on the pathophysiological mechanisms and the long-term impacts of pericardial diseases are necessary. Implementing these recommendations can improve patient diagnosis, treatment, and care.

28. Computed Tomography Patterns, Score and Outcome of Intracerebral Haemorrhage Among Patients Attending Tanzanian Tertiary Hospitals

Authors: **Isangya Lameck**, Mboka Jacob, Joel Bwemelo

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS), Muhimbili Orthopedic Institute (MOI) Radiology & Imaging Department.

Background: Intracerebral haemorrhage (ICH) is a potentially fatal type of stroke. It has been associated with high death rates and unfavourable recovery results. Within the first month, there is an almost 50% death rate. The rise in non-communicable diseases has resulted in a notable increase in the number of people with ICH. To maximize the available treatment options, early imaging, and outcome assessment is crucial.

Objective: To examine the CT patterns, severity, and predictors of 30-day mortality in patients with spontaneous ICH was the primary goal.

Methodology: From September 2023 to March 2024, a cross-sectional study was carried out at Muhimbili Orthopaedic Institute and Muhimbili National Hospital-Mloganzila. Version 23 of SPSS was used to analyse the clinical CT data. Chi-square analysis was performed on categorical variables. The 30-day mortality predictors were found using univariate and multivariate logistic regression. P-value of < 0.05 was regarded as statistically significant. , Kaplan-Meier survival analysis was used to estimate survival probability.

Results: A total of 142 ICH patients were studied. The patients were mostly male (60%) and had a mean age of 55 ± 11 years. The majority of patients (96%) had hypertension, while 14% had diabetes. Nearly ninety- of ICHs were supratentorial. Sixty-three percent of the patients had hematoma volumes >30 cm. Death rate was 46%. Associated hematoma volumes of $\geq30cc$, midline shift, hydrocephalus, ≥3 ICH scores, aneurysm, older age (>55 years), and male gender were all predictive factors of 30-day mortality.

Conclusion: In nearly every ICH patient, hypertension was present. The ICH affected more men. The 30-day mortality rate was 46%. Aneurysms, older age, hydrocephalus, midline shift, high ICH scores (≥3), male gender, and hematoma volumes were all significant predictors of 30-day mortality. Patients with ICH score of 4 had 100% mortality rate.

Recommendation: ICH score should be used for risk stratification to aid in patient management, decision-making and forecast results. Interventions aimed at preventing non-communicable diseases require greater effort.

29. Clinical Characteristics, Outcome and Associated Factors among Oncological Patients Presenting to Emergency Department at MNH

Authors: **Dipali V Somani**, Evelyne Mapunda, Alphonce Simbila, Said Kilindimo, Ellen Weber

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Globally, the burden of cancer is predicted to rise, especially in developing nations. Cancer patients in these countries have a significant risk of developing life-threatening complications and poor outcomes as compared to those in high-income. Recent information on clinical profiles and outcomes of emergency department visits by cancer patients in low-middle-income countries is scarce.

Methodology: To determine clinical characteristics, outcomes and associated factors associated with hospital mortality among adult oncological patients presenting at MNH ED.

Methodology: A prospective cohort study was conducted from November 2023 to January 2024 at ED at MNH. Patients were included if they had a previously diagnosed oncological disease and consented to participation. Clinical characteristics, National Early Warning Score and disposition was collected, followed till 7 days. Multivariate analysis was used to determine the association between patient and disease characteristics and mortality and a p value less than 0.05 was considered statistically significant.

Results: 236 oncological patients were enrolled, accounting for 2.7% of all adult medical visits. Their mean age (± SD) was 55 (± 14) years, 56.4% were female and 14.4% had ECOG status of above 3. The most predominant cancers were esophagus (24.6%), cervical (17.4%) and breast (11.9%). The 7 days in- hospital mortality was 13.13%. RED NEWS Score was independently associated with mortality (aOR 5.90 95%CI: 2.49-13.94, p<0.001).

Conclusion: The mortality rate in lower income was higher. NEWS Score is a factor to determine mortality among oncological patients and can be used to predict for 7-day in-hospital mortality. And the second and third most common cancers were cervical and breast which is preventable with screening.

Recommendation: We recommend using the initial vital signs at the emergency department as a predictor for appropriate disposition of patients. We recommended screening of regular patients for breast and cervical to prevent the oncological disease or initiation of early treatment.

30. Chronic Myeloid Leukemia in Tanzania: Clinical Profile and Five-Year Survival

Author: **Kelvin Mbelekwa**

Affiliation: Muhimbili university of health and allied Sciences

Background: Chronic Myeloid Leukemia is among the most frequently diagnosed leukemias in Tanzania. Data obtained from Muhimbili National Hospital from 2018 to 2023 reported a total of 636 new cases of leukemia in adults,among them, 288 patients were CML, ,accounting to 45.8% of all newly diagnosed Leukemias .Treatment of CML creates a significant financial burden as patients taking Tyrosine Kinase Inhibitors are advised to do so indefinitely, which presents issues with sustainability

Objective: To describe the clinical profile and five-year survival of patients diagnosed with CML in Tanzania between 2015 and 2023

Methodology: This is a retrospective observational study conducted at Ocean Road Cancer Institute (ORCI), which included patients with a confirmed diagnosis of chronic myeloid leukaemia attending a hematology clinic from January 2015 to December 2023. The sample size is 358 patients. Data was collected from both the electronic data system and hospital files of patients attending ORCI. These patients are enrolled in the Max Foundation program, which donates tyrosine kinase inhibitors (TKIs) to Tanzania.

Results: Initial results indicate a gradual increase in new CML patients from 2015 to 2023, attributed to improved diagnostic services and expanded haematology clinics. However, the rise in patients necessitates sustainable treatment availability. Only two hospitals offer free medications, highlighting the need for more affordable treatment options. The mean age of CML patients is 38.8 years, possibly influenced by environmental and genetic factors. Preliminary results show the five-year survival of CML is 88.5%, which is comparable to high income countries.

Conclusion: The data reveals a concerning upward trend in CML cases in Tanzania, likely due to improved diagnostics and decentralized services. However, sustainable treatment remains elusive, with only two hospitals providing free medications. Younger patients predominate, highlighting the socioeconomic impact. Survival rates are promising, but challenges persist in documentation and access to care.

Recommendation: Recommendations for addressing the rising number of CML patients in Tanzania include expanding access to free medications, decentralizing treatment services, improving diagnostic facilities, establishing a national registry, and increasing public awareness through collaborative efforts with healthcare stakeholders and advocacy groups

31. Incidence, Microbiological Agents and Predictors of Surgical Site Infections Following Open Surgeries in Orl-Muhimbili Hospital

Author: Kusi Lema

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Surgical site infection is the most common complication of surgery across all surgical disciplines, associated with increased hospital stay,

readmission, increased cost, re-operation, and death. The incidence, microbiological agents, and predictors of surgical site infection among patients undergoing surgeries in otorhinolaryngology at Muhimbili Hospital are unknown. This study will enlighten the existence of surgical site infections, and predictors in the otorhinolaryngology department for surgical service improvement in the future.

Objective: To determine the incidence, predictors, and microbiological agents of surgical site infections among open surgeries done in ORL-Muhimbili National Hospital

Methodology: This was a hospital-based prospective cohort study. Patients' demographic, Pre-operative, intra-operative, and post-operative data were collected through a structured data collecting tool from patients who underwent open surgeries and consented to participate in the study. F rom clinically diagnosed cases, Swabs were collected and sent for microbiological study. Data was analyzed by using SPSS version 23 and STATA version 15.

Result: During my study, 89 (100%) patients underwent open procedures, and 20 (22.5%) patients developed surgical site infections. About 72.8% of the bacteria species isolated in my sour were Gram-negative. Pseudomonas aeruginosa (38.9%) followed by Staphylococcus aureus (16.7%) were the most isolated bacterial species in this study. On Multivariate analysis, alcohol drinking habits (RR 1.71, 95% CI 1.01-2.94, P=0.048), HIV/AIDS comorbid (RR 1.87, 95% CI 1.16-3.00, P=0.001), and those who didn't receive antibiotic prophylaxis (RR 9.92, 2.16-45.51, P=0.003), independently predicted

Conclusion: The incidence of surgical site infections in the Otorhinolaryngology department is high and mainly caused by Pseudomonas aeruginosa, and significantly predicted by alcohol use, HIV/AIDS comorbidity, and underuse of antibiotic prophylaxis.

Recommendation: "Abstinence from alcohol consumption. 4 to 8 weeks before surgery for surgical patients. Antibiotic prophylaxis is particularly indicated for otolaryngology surgeries. Patients with HIV/AIDS comorbidity, have to be thoroughly evaluated for assessment surgical site infections risk, and CD4 of > 350 is strongly recommended.

32. International study of 24-hour movement behaviours during the early years (SUNRISE)

Authors: **Jackline J. Nusurupia**, Leyna H. Germana, Ray Masumo1 Hoyce A. Mshida, Adeline Munuo, Xanne Janssen, John J. Reilly.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The 24-hour period is divided between sleep, sedentary behaviour, and physical activity (the 24-hour 'movement behaviours'). Time spent in physical activity, sedentary behaviour, and sleep in children influences obesity and many other health indicators. The World Health Organization's Commission

on Ending Childhood Obesity Report stressed the importance of addressing 24-hour movement behaviours in early childhood to counter the rise of childhood overweight and obesity.

Objective: To determine the proportion of Tanzanian 3- and 4-year-olds who meet the WHO guidelines for physical activity, sedentary behaviour, sleep

Methodology: The SUNRISE Tanzania Study recruited 110, 3–4-year-old child/parent dyads from 8 schools from rural and urban in Dar es Salaam. The children wore actigraph accelerometers continuously for at least 48 hours to assess their physical activity. Sleep duration, screen time and time spent restrained were assessed via parent questionnaire. Mann-Whitney U tests were conducted to examine whether anthropometric indicators, movement behaviours, differed among genders and residential settings.

Results: There were no significant differences in movement behaviours between genders, but there were significant differences in the area in which the child lived. In comparison with their counterparts, rural children spent significantly more time sleeping 702 (95%, CI 674.3- 728.9) than their urban counterparts 666.0 (95%, CI 652-681). Urban children spent a significantly higher amount of time restrained sitting 42 (95%, CI 34.6- 48.8) than their rural counterparts 7 (95%, CI 1-13). Rural children spent significantly more time on physical activity.

Conclusion: For Tanzania to combat physical inactivity epidemics, surveillance of movement behaviors in rural and urban settings is crucial.

Recommendation: 24-hour movement behaviours are crucial to the child's health and cognitive development.

33. Cognitive domains affected post-COVID-19; a systematic review and meta-analysis

Author: Jack B. Fanshawe, Brendan F. Sargent, **Elinda Kuhoga,** James B. Badenoch, Aman Saini, Cameron J. Watson, Aleksandra Pokrovskaya, Daruj Aniwattanapong, Isabella Conti, Charles Nye Ella Burchill Zain U. Hussain Khanafi Said, Kukatharmini Tharmaratnam,   Sophie Pendered, Bernard Mbwele, Maxime Taquet, Greta K. Wood, Jonathan P. Rogers, Adam Hampshire, Alan Carson, Anthony S. David, Benedict D. Michael, |Timothy R. Nicholson,   Stella-Maria Paddick, Charles E. Leek

Affiliation: Musoma Clinical Officers Training Centre

Background: Cognitive impairment appears to be common after recovering from COVID-19 disease, with an estimated 18%–36% of people affected depending on whether subjective or objective measures are used, and 32% of patients reporting subjective 'brain fog' over 3 months after the initial infection.

Objective: This review aims to characterize the pattern of post- COVID-19 cognitive impairment, allowing better prediction of impact on daily function.

Methodology: A systematic review and meta- analysis of neurocognitive sequelae following COVID-19 was conducted, following PRISMA-S guidelines. Studies were included if they reported domain-specific cognitive assessment in patients with COVID-19 at >4 weeks post- infection. Studies were deemed high- quality if they had >40 participants, utilized healthy controls, had low attrition rates and mitigated for confounders

Results: Five of the seven primary Diagnostic and Statistical Manual of Mental Disorders (DSM- 5) cognitive domains were assessed by enough high- quality studies to facilitate meta- analysis. Medium effect sizes indicating impairment in patients post- COVID-19 versus controls were seen across executive function (standardised mean difference (SMD) −0.45), learning and memory (SMD −0.55), complex attention (SMD −0.54) and language (SMD −0.54), with perceptual motor function appearing to be impacted to a greater degree (SMD −0.70).

Conclusion: This review found moderate impairments across multiple domains of cognition in patients post- COVID-19, with no specific pattern. The reported literature was significantly heterogeneous, with a wide variety of cognitive tasks, small sample sizes and seen in previous coronavirus epidemics [1], a significant proportion of patients infected with SARS- CoV- 2 develop cognitive (neuropsychological) sequelae.

Recommendation: Future research should focus on longitudinal evaluation of patients and include matched comparison groups to assess for causality between COVID-19 infection and cognitive impairment. Additionally, confounding factors such as age, education level, de-pression/anxiety and ability to attend to a task should be considered when assessing cognition.

34. Inception of the MUHAS Women in Academia Project

Authors: Khadija Malima[1], Hawa Mbawala[2,3], Linda Paulo[4], Beatrice Mwilike[5], Julie Makani[6,7,8], Cleopatra Justine[9], Ritah Mutagonda[10], Fransia Arda[11], Rehema Chande[12], Magdalena Lyimo[13], Lulu Fundikira[14], Judith Constantine[9], Maryam Amour[15], Restituta Mushi[12], Esther Steven[16], Doreen Mloka[17].

Presenting author: Dr Linda Simon email: linda.p.simon@gmail.com

Background: In line with the Government of Tanzania's commitment to uphold gender equality and equity, MUHAS has made significant improvements in closing the gender gap. Over the past decade, the number of women in academia increased from 21.4% to 45.6% for senior lecturers and 32.5% to 43.5% for lecturers for 2012 and 2021 respectively. Currently, the total number of academic staffs at MUHAS is 445, whereby women are 175 (38.2%).However, some areas require strengthening to enhance the progression of women in academia, including access to research funding, support to achieve a work-life balance, and mentorship at different career stages (early, mid, and senior). Following a series of discussions among women faculty members at MUHAS, participants proposed developing a framework to support career development for women at the University.

Objective: To establish an operational framework for coordinating and supporting university academic women's career development through research, collaboration, and mentorship.

Methodology: The MUHAS Women in Academia project is designed to create a framework for promoting research and academic progression for female researchers. This will be achieved through a comprehensive approach that includes research, tailored programs, strategic partnerships, and ongoing evaluation to address the diverse needs and challenges faced by women in academia. By fostering a culture of inclusivity, accountability, and continuous improvement, the project seeks to create long-term impact and inspire positive change within the academic community.

Planned Activities: The project will focus on mentorship programs, career development workshops and seminars, networking events, resource mobilization to support women-led research projects, and the development of research programmes.

Host and plans: This project is initiated under the MUHAS gender unit and the Directorate of Research, Publications, and Innovation, with plans to evolve into a nationwide platform to nurture women in academia.

35. Prevalence and factors associated with depressive symptoms among people living with HIV in Moshi Municipality, Tanzania

Authors: Neema Allen Ng'unda

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Depression is a common mental disorder causing disability worldwide, accounting for 3.8% globally and 38% in East Africa. There is an increase in the prevalence of depressive symptoms in people living with HIV(PLWH) than in the general population which may impair adherence to treatment and quality of life. There are biological and psychosocial factors associated with depressive symptoms in PLWH. Therefore, this study determined the prevalence and factors associated with depressive symptoms among people living with HIV in Moshi Municipal, Tanzania

Objective: The study determined the prevalence and factors associated with depressive symptoms among people living with HIV in Moshi Municipality, Tanzania

Methodology: A cross-sectional, multistage systematic sampling technique was used to select the study participants. Data collection involved a structured social demographic questionnaire, DUKE-UNC Functional Social Support Questionnaire to measure social support, a Patient health questionnaire (PHQ9), a brief copying scale, and glycated hemoglobin (HBA1c) tools. Descriptive analysis and logistic regression models were performed in SPSS version 25 to determine prevalence

and factors associated with depression at a significance level of p less than 0.05. Ethical clearance was obtained from MUHAS IRB and participants consented.

Results: 598 clients participated in this study from four care and treatment Clinics (CTCs), 56% from Mawenzi Regional Referral Hospital (MRRH), and 70.9% of the participants were female. The prevalence of depressive symptoms was 14%. Females, age 40 years and above, with no diabetes mellitus, a family history of mental illness, good social support, and higher maladaptive copes were more likely to have depressive symptoms. Factors such as marital status, education level, occupation status, and perceived HIV stigma were not associated.

Conclusion: In this study, the prevalence of depressive symptoms among PLWH is more common as fourteen people in a hundred reported depressive symptoms. Factors such as being female, having an age of 40 years and above, having no diabetes mellitus, family history of mental illness, having good social support and having higher maladaptive cope were associated with depressive symptoms.

Recommendation: Therefore, blending physical and mental health services is necessary for all patients visiting CTCs, awareness of mental disorders and researching different mental health issues will help promote and extend mental health services

36. Evaluation of Perioperative Pain Management Practice and Associated Factors Among Health Care Providers at Mnazi Mmoja Hospital

Authors: Sumayya S Mussa, Respicious Boniface, Edwin Lugazia

Affiliation: Muhimbili University of Health and Allied Sciences

Background: In Tanzania, the incidence of perioperative pain is reported to be very high in the post postoperative period where poorly controlled postoperative pain may predispose the patient to long time hospital stay or life-threatening complications causing even death. Adequate practice influenced by knowledge, attitude, familiarity with pain assessment tools, availability of guidelines, and in-service training is required to ensure a pain free state in the patient undergoing a surgical procedure.

Objective: The purpose of this study was to evaluate perioperative pain management practice and associated factors among healthcare providers at Mnazi Mmoja Hospital (MMH)-Zanzibar.

Methodology: Cross-sectional study was conducted at MMH -Zanzibar. The participants were healthcare providers working in surgical units of MMH. Participants were selected through a consecutive sampling method. Data collection was done using a structured questionnaire adapted from previous study. Data analysis was carried out using SPSS. Statistical significance was

determined by Pearson chi-square test and logistic regression and P values <0.05 and 95% confidence interval was considered significant.

Results: Among the 114 healthcare providers who were included in the study, 22 (19.3%) were specialists, 31 (27.2%) registrars, and 61 (53.5%) were nurses. Ninety-eight (86.0%) had poor practice on perioperative pain management practice. An overwhelming majority of healthcare providers (93.0%) were not using the validated pain assessment tools in the assessment of pain. Knowledge (AOR (95%CI) = 45.9(8.116-260.038)), Attitude (AOR(95%CI)=3.3 (1.098-9.817)), and familiarity with pain assessment (AOR (95% CI) = 3.1 (1.040-8.997)) were significantly associated with good levels of perioperative pain management practice

Conclusion: The result of this study indicated that healthcare professionals at MMH have a poor level of practice toward perioperative pain management, ongoing educational programs related to the topic are strongly recommended to improve knowledge and attitude so as to raise the level of practice. Therefore, use of pain instruments, guidelines and protocols related to perioperative pain assessment and management should

Recommendation: The researchers suggest the verbal numeric pain scale should immediately be adopted for patients who are able to communicate verbally, as well as the nonverbal pain scale for patients who cannot communicate verbally. The pain validated scales can be printed on identification-card size paper and attached to the healthcare provider's identification. Also quality improvement initiatives in pain management could enhance

37. Assessment of Nutrition status, feeding problems and existing oral nutritional support among children with cancer.

Authors: Hadija Mwamtemi, **Ruchius Philbert**, Salama Mahawi, Anna H Masawe, Magreth Msoffe, Miraji N Omary, Emmanuel Elisha Sareya, Lulu Chirande

Affiliation: Muhimbili National Hospital

Background: More than 85% of childhood cancers occur in developing countries, including countries in sub-Saharan Africa. Malnutrition is the common problem among pediatric patients with cancer and ranges from 30% - 80% globally. Nutrition among the pediatric population is essential as children grow exponentially. Malnutrition in pediatrics has negative consequences on the health of children. A chronic disease like cancer affects the nutrition of developing children.

Objective: To describe nutritional status, feeding problems and existing oral nutritional support among children with cancer at Muhimbili National Hospital (MNH)

Methodology: A hospital based, prospective cohort study involving 246 patients was done at Pediatric Oncology Unit, Muhimbili National Hospital, Dar es salaam. Patients with any type of malignancy were recruited in the study and were assessed nutrition status, feeding problems and common oral nutritional support practices. The data was collected using Excel, and the analysis was conducted using R version 4.2.3.

Results: Majority of recruits were males accounting about 55.7% followed by females accounting 44.3%. This study has revealed that 11.8% of the participants had SAM, 28.5% MAM and about 59.3% had normal nutrition status. Patients presents at hospital with different types of feeding problems. Hospital meal is the commonest nutritional support above 85%. Caregivers received nutritional education throughout treatment period. Study revealed significant association between feeding problems and nutrition status with P-value of 0.0000001476.

Conclusion: Nutrition is one of the components requiring attention during cancer management among children with cancer. Nutrition should be adequately integrated in the management of cancer while making clinical decisions and also making sure that key nutrition interventions are easily accessible.

Recommendation: Nutrition must be included in treatment of childhood cancers.

38. Prevalence of Metabolic Bone Disease and Associated Factors among Preterm Admitted at Muhimbili National Hospital

Authors: Joyce John Komba, Mariam Nooran, Karim Manji.

Affiliation: Muhimbili University of Health and Allied Science

Background: Metabolic bone disease (MBD) is one of the preventable and reversible complications of prematurity. There is an increase in the survival of premature neonates with modern advancements in neonatal intensive care; however, the complications due to MBD of prematurity affect the growth and development of premature babies later in their lives. Understanding the prevalence and associated factors of MBD among premature babies will help to develop evidence-based guidelines.

Objective: To determine the prevalence of Metabolic bone disease and associated factors among preterm babies admitted at Muhimbili National Hospital.

Methodology: A hospital-based analytical cross-sectional study was conducted on premature neonates admitted at MNH. Data about participants' demographics, maternal, and neonatal factors and clinical profiles were collected using a structured questionnaire Blood samples were collected from infants between the

ages of 4 to 12 weeks and serum ALP and phosphorus levels were measured. MBD was defined by serum phosphate level 900IU.

Results: 240 participants, females were 136 (56%). Very low birth weights were 198 (80.4%). The prevalence of MBD was 14.6%. 239(99%) participants were exclusively breastfed. 174 (72.5%) of the participants were prescribed supplements with combined multivitamins and 7(2.3%) of the participants were given multivitamins according to the guidelines. Infants born by mothers aged >30 years have 2 times the odds of MBD   extreme preterm has 4 times the odds of MBD. Extremely low birth weight has 13 times the odds of MBD.

Conclusion: 14 % of infants with very low birth weight have a risk of developing MBD. 2% of the participants were on multivitamins recommended by guidelines. All participants were on exclusive breastfeeding. Neonatal factors associated with increased risk of MBD were extremely low birth weight and extreme preterm while mothers aged > 30 were the maternal factors related to MBD.

Recommendation: Early screening and monitoring of metabolic bone disease by using ALP and Phosphorus especially for extreme preterm and extreme low weight preterm and provision of multivitamins according to the requirements. There is a need for reinforcing the strategies towards adjusting the supplement regime to meet the demand.

39. Knowledge, Attitude and Factors Associated with Practice of IFA Supplementation Among Pregnant Women Attending ANC in Morogoro Municipality, Tanzania.

Authors: **Michael Kenneth Mabisi**, Peter Wangwe, and Brian Abraham Muro

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Worldwide, iron deficiency anemia in pregnancy continues to be a public health problem, but it is more common in low- and middle-income countries. It is strongly advised that every pregnant mother take an iron supplement to meet her needs throughout pregnancy and improve birth outcomes. In Tanzania, maternal anemia continues to be a leading cause of morbidity and mortality, despite the country's policy that promotes routine and regular IFA supplementation.

Objective: To assess knowledge, attitude, and factors associated with the practice of IFA supplementation among pregnant women during ANC clinic follow-ups.

Methodology: A quantitative analytical cross-sectional study involved 358 pregnant women in Morogoro municipal council. ANC exit interviews using a structured interviewer-administered Swahili version questionnaire were done to collect data. The data were analyzed using SPSS version 23. Chi-square and

ordinal logistic regression analyses were carried out to determine factors associated with the practice. The adjusted odds ratio and 95% confidence interval were used to show association, and a P-value <0.05 was deemed significant.

Results: Out of 358 studied, the majority showed positive attitudes (94.4%), good practice (52.8%), but poor knowledge (56.7%) regarding IFA supplementation during pregnancy. The odds of having good practice were observed with primary education level aOR = 2.40, 95% CI: 1.11–5.27, p = 0.027; formal and informal employment aOR = 2.72, 95% CI: 1.14–6.77, p = 0.028; gravidity of >2 aOR = 2.28, 95% CI: 1.19–4.41, p = 0.014; and positive attitude towards IFA supplementation aOR = 6.64, 95% CI: 2.70–17.01, p = 0.001. There was no relation between the level of knowledge and good practice (P-value = 0.584).

Conclusion: The studied individuals showed readiness (a positive attitude) to know much about IFA supplementation and agreed with the recommended proper practices. Observed good practices should be based on their good compliance with the provided supplements rather than their high education level and either level of knowledge about the IFA supplementation.

Recommendation: Health education sessions during ANC clinics should be sustainable and consistent, and they should accommodate both the literate and the illiterate. Additionally, the introduction of a follow-up mechanism for pregnant women taking supplements is vital to ensuring good practices.

40. Clinical Audit on Management of Suspected Pulmonary Embolism in Pregnancy and Postpartum at Muhimbili National Hospital, Tanzania

Author: Nathan stephen

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Maternal death related to pulmonary embolism (PE) is significantly higher in developing countries than in developed countries. In Tanzania, the pulmonary embolism cases are few but case fatality rate is too high. PE is the fifth leading cause of Maternal death. Therefore, it is important to evaluate standards of care applied during pulmonary embolism diagnosis and management as a way of reducing maternal mortality.

Objective: To evaluate the management and outcome of Pulmonary Embolisms among pregnant women admitted at Muhimbili National Hospital (MNH).

Methodology: A cross-sectional study design was conducted to review 86 patient files with pulmonary embolisms during pregnancy and postpartum period selected conveniently at MNH. Audit of national guideline standards for the management of pulmonary embolism and SPSS software version 23 was used for

data analysis. Frequency tables and proportions are used to summarize the descriptive statistics.

Results: of 86 participants, 67.4% were aged 18-35, and 40.7% were confirmed to have PE among suspected case. Adherence to standard criteria for the management of PE was found to be 86.0%, contributed by investigation using CTPA and the administration of Fractionated LMWH. Maternal outcomes showed 68.6% survival.

Conclusion: The high confirmation rate of PE underscores accurate diagnosis, Fractionated LMWH and CTPA are well practiced, and maternal outcomes indicate significant survival rates.

Recommendation: "1. To ensure timely access to advanced imaging modalities such as CT-PA for pregnant women suspected of PE. This aimed to initiate appropriate treatment promptly, thereby reducing the risk of adverse maternal and fetal outcomes. 2. To improve Multidisciplinary Collaboration among obstetricians, hematologists, radiologists, and other relevant specialists. This could facilitate comprehensive management of PE in pregnant women, promoting interdisciplinary"

41. High Prevalence of Sickle Cell Disease in Low Endemic Areas: A Pilot Study in Chunya

Authors: **Amani Twaha**, Deocles Donatus, Khanafi Said, Moshi Moshi Shabani, Marygladness Ngeme, Maryjesca Mafie, Stamily A. Ramadhani, Abdulrahman Hussein, Nazareth Mwema Mbilinyi, Adam Kilungu, Gwenyth Lee, Kasia Maksym

Affiliation: Regency Medical Center, Dar es Salaam, Tanzania.

Background: Tanzania has the fifth highest prevalence of sickle cell disease (SCD) worldwide, with 11,000 children born annually, of whom only 10% survive to their fifth birthday. Climate change indirectly affects the epidemiology of SCD, with migration influencing its geographical prevalence. Suboptimal screening in regions previously considered low prevalence leads to late diagnosis. Early identification enables timely management, improving quality of life and reducing financial burden.

Objective: This study aims to assess the opportunity to improve early identification of SCD risk in Chunya, Tanzania.

Methodology: Resource mobilization and stakeholder meetings were conducted, then a one-week campaign led by volunteers targeting secondary schools, hospitals, and the community in Mbeya Region, using onsite events, radio, and social media to promote screening for sickle cell disease. A cross-sectional study was conducted in Chunya on February, 2020. Candidates, ranging from neonates

to adults, were screened by a POC (sickle scan) having sensitivity of 100% and a specificity of 99.2%.

Results: Among candidates, 54% were female, 46 % male. Age ranged from one day to 64 years, median 16 years, SD 9.8 years. Grouped into 49 tribes based on geography: Southern-highlands, Central, East and Lake zones. SCD prevalence was 1.9%, SCT prevalence 8.4%. Having both parents from Low Endemic area is protective (OR 0.4), both from High Endemic area pose risk (OR 6.0), sibling with SCD (OR 11) also significant risk factor. All factors were statistically significant with P value <0.005.

Conclusion: "The prevalence of SCD in the Southern Highlands is increasing due to factors including migration, as evident through the epidemiology patterns of pastoralist and farmer tribes from Lake Zones searching for arable land and green postures in Chunya, Tanzania. Further more, there are suboptimal services in the region capable of screening, diagnose and treat sickle cell disease in the region."

Recommendation: The finding of this study act as a pilot study to give picture of the situation in Mbeya. New strategies for screening, such as community testing, community-based genetic counseling and mobile health units, establishing a center for Excellence and developing referral algorithm must be developed to enable early diagnosis and management of SCD.

42. Nutritional Management Of Moderate Wasting In Children 6-24 Months With Acute Illness

Author: Karim Manji, Rodrick Kisenge, Sarah Somji, Christopher Sudfeld, Christopher Duggan, Ameena Goga, Ayesha De Costa, Agnese Iuliano, Nigel Rollins.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Moderate malnutrition (MAM) is associated with 3-fold higher risk of mortality in children <5 years compared to those well-nourished. However, there is not much evidence on their management. Treatment should be offered to those at highest risk of death and deterioration, as children with moderate wasting and additional risk factors have higher risks of morbidity and mortality. Most of the deaths in this cohort largely occur from infectious illnesses.

Objective: Evaluate efficacy of locally available foods or microbiota directed supplementary food compared to RUSF in those MAM with infection

Methodology: A multicentre, individually randomized open label, factorial design trial of 1,272 participants implemented in two phases. Phase 1 of the study is focused on achieving anthropometric recovery. Phase 2 is focused on sustaining anthropometric recovery. Children who recover from moderate wasting in phase

1 will be randomized a second time to receive either follow up intervention or standard care (national standard of care for recovered children in the country).

Results: Enrollment is ongoing at our site and other sites. Children presenting with MAM and an acute infection at any of our recruitment sites are screened, consented and enrolled into our study. They are then followed closely for 12 weeks while delivering supplements. Then re-randomization is done and enrollment into phase two where they either receive a food voucher or standard of care. This passive follow up continues for another 12 weeks after which the child is discharged from the study

Conclusion: As much as nutrition studies are tricky to conduct, it is key to build rapport with the mother and counsel her well. Additionally, involvement of fathers in decision making is crucial. Moreover, working closely with healthcare facility staff and building rapport with them is useful. Ensuring good training and good quality data is being conducted at sites is key.

Recommendation: Once the study is complete and analysis are completed, recommendations will be presented.

43. Measuring Emotional and Behavioral Problems Using the Strengths and Difficulties Questionnaire (SDQ) among Young Primary adolescents in Tanzania.

Authors: **Isaac Lema**, Arisa Shichijo Kiyomoto, Alyssa Martinez, Rachel Jared, David Gitagno, Joseph R. Egger, Joy Noel Baumgartner, and Sylvia Kaaya

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Adolescence is a period of human development during which a person moves from dependency to independence, autonomy, and maturity. Worldwide, mental disorders account for 13% of the global disease burden among adolescents aged 10 to 19, which makes adolescent mental health a global priority. Young primary school-based adolescents often face various emotional and behavioral problems; however, there is minimal data on emotional and behavioral problems in Tanzania's young school-based adolescents

Objective: To characterize the distribution of emotional and behavioral problems among Standard 7 adolescents in Kinondoni and Bagamoyo, Tanzania.

Methodology: Baseline data from the VITAA randomized trial included a self-reported version of the Strengths and Difficulties Questionnaire (SDQ). Derived total difficulties scores were calculated plus subscales scores: conduct problems, hyperactivity, emotional symptoms, peer problems, and prosocial behaviors. Descriptive analyses present the distribution of total difficulties by sex and district. To estimate the prevalence of mental health problems, we explored the application of suggested SDQ cut-off scores from the UK and SA.

Results: Among1,095 participants with a mean age of 13.4 years, the mean total SDQ score was 5.5 (SD 4.8%) out of 40. Scores were slightly higher among boys (5.6%) than girls (5.4%) and lower in Kinondoni (4.7%) than in Bagamoyo (6.4%). Subscales with higher difficulty scores were emotional symptoms and conduct problems. Using the UK norm cut-off of 15, the estimated prevalence of mental health problems was 5.4% (n=59), and per the South Africa norm cut-off of 17, it was 3.9% (n=43).

Conclusion: Findings illustrate that although the overall study population had minimal difficulties, some adolescents are facing emotional and behavioral problems. The variation by sex was minor, however, Bagamoyo had higher scores compared to Kinondoni which suggests that young primary school adolescents in Bagamoyo are experiencing a higher mental health burden. There were slight differences based on the UK and SA cut-offs.

Recommendation: Based on our findings on the prevalence of emotional and behavioral problems among young primary school adolescents, there is a need to conduct assessments regularly and design interventions to prevent and support those young adolescents at risk. Additionally, SDQ needs to be validated for an optimal cut-off for Tanzania adolescents.

44. Inpatient vs. Outpatient Treatment for Low Mortality Risk Signs in neonates with Possible Bacterial Infection

Author: **Rodrick Kisenge**, Sarah Somji, Nahya Salim, Christopher Sudfeld, Christopher Duggan, Yasir Bin Nisar, Karim Manji

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The World Health Organization (WHO) recommends that young infants presenting with PSBI should be managed in a hospital but when referral to a hospital is not feasible, then those with some clinical severe infection (CSI) can be treated as outpatients. Further implementation research indicates that some clinical signs have relatively low case fatality when they occur as single signs. If these could be managed as outpatients, it could reduce hospitalization by >70%.

Objective: Outpatient treatment effect versus inpatient treatment on clinical outcome in those 0-59 days with one low-mortality risk sign of CSI.

Methodology: Open label randomized controlled trial (RCT). A participant will be required to have one of the low-mortality-risk signs of PSBI after which will be randomized to either be treated as an outpatient with amoxicillin plus IM gentamycin treatment or as an inpatient with IV/IM ampicillin plus gentamycin and will be assessed at days 4, 8 and 15 for outcomes. This includes mortality and other morbidity outcomes.

Result: The enrollment and follow up of 1,400 participants has been completed at our site. Since it is a multi-site trial, we are waiting for other sites to complete enrollment and follow up before we can conduct analysis.

Conclusion: Establishing good systems are crucial for starting, running and completing a good clinical trial. Building a good rapport, working closely with healthcare facility staff but also ensuring good training is being conducted at sites. Also, ensuring that the quality of study procedures, standard of care as well as quality data is collected during this process ensures a good study.

Recommendation: The results will be shared once analysis is completed after all sites complete enrollment and follow up

45. Timing of Discharge Post Caesarean Section and Reported Maternal and Perinatal Symptoms at Mbagala Hospital

Authors: **John Shayo**, Vincent Tarimo, Belinda Balandya

Affiliation: Muhimbili University Of Health And Allied Science

Background: The timing of discharge after caesarean delivery is crucial for women's recovery. In Tanzania, the guideline recommends a 72-hour in-patient monitoring period to prevent maternal or perinatal complications. Early discharge may lead to readmissions and adverse outcomes. However, there is a lack of studies on short-term maternal complications after caesarean birth in Tanzania, especially in facilities with high caesarean rates.

Objective: Study aims to link discharge time after caesarean birth with short-term complications in a high-load urban hospital.

Methodology: A cross-sectional study was conducted from August to November 2023, involving women who had undergone caesarean section at Mbagala Rangi Tatu and were attending the postnatal clinic on the 7th day. Data was analyzed using IBM SPSS version 26, with descriptive statistics used for social demographic and clinical characteristics, and chi-square for assessing the association between discharge time and reported maternal and perinatal symptoms.

Results: Out of 370 participants, 2.2% had severe maternal symptoms requiring admission, and 2.4% had severe perinatal symptoms requiring re-admission. Additionally, 16.8% experienced bothersome maternal symptoms requiring closer follow-up, while 8.9% had similar perinatal symptoms. Maternal symptoms were more proportion in discharges $\geq$ 72 hours (56.2% vs. 14.7% for <72 hours), and perinatal symptoms were also higher in $\geq$ 72-hour discharges (52.2% vs. 6.6% for <72 hours), with both associations being statistically significant (p<0.001).

Conclusion: The time of discharge post caesarean section had an impact in occurrence of maternal and perinatal symptoms reported on day 7 during

postnatal visit. However, proportion of symptoms was low for those discharge in < 72 hours compared with those discharged in≥ 72 hours.

Recommendation: Maternal and perinatal symptoms on day 7 postnatal visit may decrease by adjusting discharge time for women post-caesarean section to between 24 and 72 hours. Implementing postnatal guidelines for caesarean section discharge hours at high-output hospitals like Mbagala Rangi Tatu is challenging. Further research is required to assess symptoms based on discharge time.

46. Clinical Audit of the Management and Outcome of Preterm Prelabour Rupture of Membranes at Muhimbili

Authors: **Evance Polin Molinga**, Fadhlun M Alwy Al-beity, Belinda Balandya.

Affiliation: Muhimbili University of Health and Allied Science.

Background: Preterm Pre-labor membrane rupture (PPROM) is among the leading causes of preterm birth. Most women with PPROM have no identified cause. Several guidelines on timely and appropriate management are in place but are not always followed. There is no data on adherence to these clinical guidelines in the Tanzanian setting.

Objective: The study aimed to conduct a clinical audit for the management of women with PPROM at Muhimbili National Hospital (MNH).

Methodology: A clinical audit of cases of women admitted with PPROM between January and December 2022. Case records of women were reviewed to extract management data into a checklist with standard MNH treatment. Data was checked, entered, cleaned and analyzed using SPPS version 23. Findings were presented using percentages to measure adherence and descriptive tables to show maternal and immediate fetal outcomes.

Results: During the study, 95 women were admitted with PPROM, half before 32 weeks of gestational age. Mean onset age was 31.78±2.30 weeks, with 7.72±7.67 days between onset and delivery. Two-thirds delivered within a week, 6 out of 10 via C-section. Seven out of ten cases were managed per MNH standards. Most were diagnosed through history and sterile speculum examination. Only 1.1% had a high vagina swab for infection. Three-quarters of neonates were admitted to the neonatal intensive care unit.

Conclusion: Three in every ten cases of PPROM did not receive the standard treatment. Antibiotic use was common, however was not guided by the standard guideline or laboratory investigations. Several evidence based interventions were not routinely done and could have impacted outcomes.

Recommendation: Reconciliation among HCWs on the practice in the management of PPROM. Further studies in the management and outcome of

neonates born from pregnancies complicated with PPROM. Re-audit after feedback and recommendations to complete the audit cycle and to ensure the sustainability of quality of care to women with PPROM.

47. Peer-Led Neonatal Resuscitation Training: Experience of Kairuki University

Authors: **Raidah R Gangji**, Leonard Malasa, Gambuna D Koya, Meshack Morice, Albert M Kayla, Aliasgar Khaki, Felician Rutachunzibwa, Maulidi Fataki, Florence Salvatory Kalabamu, Esther M Johnston, Esther Mwaikombo

Affiliation: Kairuki University, Dar es Salaam, Tanzania

Background: The first 28 days of life continues to be a crucial period for newborn survival in Sub-Saharan Africa. Tanzania has high Neonatal Mortality Rates largely driven by birth asphyxia. To address this challenging burden in resource-limited areas, Helping Babies Breathe (HBB) initiative trains future and current Healthcare Professionals (HCPs) in neonatal resuscitation techniques.

Objective: This retrospective study highlights the novel approach to peer-led neonatal resuscitation training among medical and nursing students at Kairuki University.

Methodology: HBB-KU initiative; a student-led program including both theoretical and practical components attended by future and current HCPs. Pre-and-post-training knowledge test assessing knowledge and understanding, and self-evaluation tests reporting self-confidence were administered.

Results: Test results of participants between 2016 to 2023 were analysed using the paired t-test. HBB-HKMU initiative successfully trained 1389 trainees. Total of 1243 (93.11%) included medical, nursing, and other health-allied science students. Pre (10.63±2.53) and post (14.71±1.60) training knowledge test-scores demonstrated statistically significant (P<0.01) improvements. Confidence prior to training, 213 (15.97%) participants reported feeling 'very confident' however, following training, increase was noted reaching 784 (56.03%) participants feeling 'very confident' demonstrating a difference of 40.06%.

Conclusion: The results indicate HBB-HKMU initiative's effectiveness in mitigating knowledge gaps and developing confidence around neonatal resuscitation amongst participants. Significant improvement in pre-to-post knowledge tests illustrated trainings' impact on participants' understanding. Increase in confidence post-training emphasizes assurance in practical abilities.

Recommendation: Utilizing students to teach and train peers and practicing HCPs may be an effective way to expand neonatal resuscitation training programs in resource-limited settings.

48. Trends in Healthcare Utilization, Insurance Coverage, and Barriers to Care Among Tanzanian Young Adolescents

Authors: **Rachel Mtei**, Arisa Shichijo Kiyomoto, Katalia Alexander, Isaac Saria Lema, Happiness Saronga, David Gitagno, Anna Minja, Eric van Praag, Joseph R. Egger, Sylvia F. Kaaya, Joy Noel Baumgartner

Affiliation: Muhimbili University of Health and Allied Sciences

Background: There are global calls to further promote adolescent health in low- and middle-income countries, yet access to healthcare services is cumbersome for this population. The VITAA study aims to assess a school-clinic partnership to provide health check-ups to adolescents in the last year of primary school. As part of the study, the team also gathered data on the adolescents' utilization of health services.

Objective: To identify trends in health facility visits by adolescents and barriers to healthcare utilization among young adolescents from parents' perspectives

Methodology: A total of 1,095 adolescents (526 males + 569 females; mean age 13) from 20 primary schools in Bagamoyo and Kinondoni enrolled and were randomized to either the Adolescent Wellness Visit intervention or control arms. 1,043 completed the 12-month follow-up survey and healthcare utilization module. Semi-structured interviews (n=42) were conducted with a purposeful sample of parents/guardians. Team-based thematic qualitative analysis was informed by Anderson's model of healthcare utilization.

Results: Among the 1043, participants, 14% reported health insurance coverage; 49% reported having no health issues, 6.4% reported experiencing health issues but not visiting a health facility, and 44.2% reported a health facility visit in the last 12 months for largely acute health problems. Of 635 reported health facility visits, most were at dispensary clinics (43.2%), followed by health centers (25.3%) and stand-alone pharmacies (12.8%). Most parents interviewed described money as the largest barrier to health service use for adolescents.

Conclusion: Study results suggest that while many adolescents use health facilities for services, access to healthcare is still limited. The financial and logistical costs of services persist as major barriers to care, particularly when coupled with low health insurance rates. Future studies are needed to further explore mechanisms aimed at addressing the challenges faced by adolescents and families seeking care.

Recommendation: Addressing the financial barriers to accessing health services is crucial for improving adolescent outcomes in Tanzania. Collaborative partnerships between communities and the government health and education sectors are needed to successfully provide affordable, preventive, primary healthcare services. Health services coordinated through schools has the

potential to foster stronger connections between adolescents, parents and the health system.

49. Timing and causes of perinatal deaths using the International Classification of Diseases for Perinatal Mortality

Authors: **Gabriel Luvanga**, Brian Muro, Ali Said, Hellen Mrina, Fadhlun M Alwy Al-beity

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The World Health Organization introduced the International Classification of Diseases for Perinatal Mortality (ICD-PM) to standardise the monitoring of perinatal death between facilities, countries and regions. The ICD-PM categorises deaths according to the timing, setting and contribution of an underlying maternal condition. Tanzania is among countries with a high burden of perinatal deaths, and there are challenges in monitoring of these deaths due to different classification systems

Objective: This study aimed to classify perinatal causes of death using the ICD-PM

Methodology: This descriptive cross-sectional study was conducted at MNH over four months. All perinatal deaths that occurred between October 2023 and January 2024 at the facility were identified. A structured questionnaire was used to extract data from the mothers and case notes of these deaths. The abstracted information was reviewed by two independent teams with knowledge of perinatal death audits. Data was entered and analysed by using SPSS version 24 :

Results: Of the 166 deaths recorded in the study period, 45% were antepartum deaths, 13 % were intrapartum and 42% were postnatal/early neonatal deaths. Most antepartum deaths were due to antepartum hypoxia from women with hypertensive disorders of pregnancy. Prematurity and low birth weight contributed to a large number of early neonatal deaths, especially in women who did not have any underlying medical condition. Intrapartum deaths were mainly due to acute intrapartum events from mothers with hypertensive disorders of pregnancy.

Conclusion: For every ten perinatal deaths, five occurred before the onset of labor and among women with hypertensive disorders of pregnancy (HDP). Almost a similar number of perinatal deaths were due to prematurity and low birth weight and occurred in women with no underlying medical conditions.

Recommendation: Targeted intervention to screen, detect and provide early management of maternal conditions, mainly HDP and preterm birth, as well as improve antepartum care, have the potential to reduce the large burden of perinatal deaths

50. Self Medication Among Pregnant Women Attending Antenatal Clinic at Iringa Regional Referral Hospital

Authors: **Edward Mhina**, Lilian Mnabwiru, Furaha August, Lilian Msele

Affiliation: Muhimbili University of Health and Allied Science

Background: Self-medication, as defined by the World Health Organization (WHO), refers to the independent use of medications by individuals without seeking medical guidance. In communities with limited resources, self-medication during pregnancy poses significant concerns, leading to issues such as abortion, stillbirths, low birth weight, premature birth, congenital defects, and drug resistance. Despite its prevalence, little is known about the motivation for self-medication in this population.

Objective: The study aimed to explore the reasons for self-medication among pregnant women attending ANC at Iringa Region Referral Hospital.

Methodology: The study design was a phenomenological qualitative study with a purposeful sample of pregnant women who attended an Antenatal care clinic (ANC) at Iringa Regional Referral Hospital from September 2023 to October 2023. Four focus group discussions were conducted. The discussions were guided using an interview guide and were audio recorded with field notes taken. The interviews were transcribed verbatim and analysed using thematic analysis.

Results: Thematic analysis revealed two key drivers of self-medication: Environmental factors and personal influence. Environmental factors include long waiting times at the health facility, living far from the health facility, and easy access to previously prescribed medications, particularly amidst the competing demands of multiple responsibilities. Personal influences stemmed from advice received from society, including family, friends, and fellow pregnant women.

Conclusion: Easy access to prescribed medication when a pregnant woman has many responsibilities, along with advice from society, family, friends, and a group of other pregnant women, played a significant role in self-medication practices.

Recommendation: Ministry of health should emphasise through media the danger of self-medication to pregnant women. Healthcare providers should include information on the dangers of self-medicating during pregnancy through antenatal care health education. Further we recommend research to evaluate the impact of self-medication during pregnancy-on-pregnancy outcomes and explore why some pregnant women do not engage in self-medication.

51. Rate, causes and risk factors of caesarean section in Southern Tanzania specifically in Mtwara region.

Author: **Japheth Paul**,

Affiliation: Ligula regional Referal Hospital, Mtwara Tanzania.

Background: Caesarean section (CS) is a life-saving surgical procedure that is performed when certain complications arise during pregnancy and labour. The World Health Organization (WHO) recommended a CS rate between 5 and 15% globally. A study involving 46 referral hospitals spread across Mali and Senegal reported CS rates of up to 38%. A study done at a referral teaching hospital in Northern Tanzania reported an average CS rate of 33% in 2010.

Objective: Determine the rate, causes, and associated outcomes of Caesarean section among Mtwara women in Southern Tanzania.

Methodology: The Study is planned to use a prospective design hospital-based longitudinal study. All Women will be enrolled in the study after delivery, shortly before or at the time of discharge from the selected health facilities. Also, face-to-face interviews using a semi-structured questionnaire will be done, and by abstraction of data from medical records. The obtained data will be taken into the Statistical Package for the Social Sciences (SPSS) program that will give the results on the Rate, causes, and risk factors of caesarean section in Southern Tanzania specifically in the Mtwara region.

Results: Preliminary data obtained from medical records at Ligula Regional referral and Teaching Hospital shows that the total number of deliveries in six months, from October 2023 to March 2024 was 512. 264 of them equals 51.6% are by caesarean section.

Conclusion: From preliminary information obtained from medical records at Ligula regional referral and teaching hospital in the Mtwara region, gives a lesson of finding out the rate, causes, and outcomes of caesarean section that is higher than Spontaneous vaginal delivery, which is 51.6% to 49.4% respectively so that the rate of the caesarean section may be lowered and prevent life complications.

Recommendation: This study aims to discover and suggest important issues to be considered, to lower the number of caesarean sections in Southern Tanzania specifically in the Mtwara region.

52. Practice and Adoption of The Tanzanian 2018 Antenatal Care Recommendations in Health Facilities in Ifakara

Authors: **Innocent William Mntenga**, Furaha August, Amani Kikula

Affiliation: Muhimbili University of Health and Allied Science

Background: The World Health Organization recommends the new Antenatal Care Model for quality of Antenatal Care Services. This is because the previous Antenatal Care model has been associated with increased perinatal death that is mainly contributed by the increase in stillbirth. Although many countries have

adopted it as a national health policy, there is a paucity of data on the implementation of this policy at district/health center level.

Objective: To Assess the Tanzanian 2018 Antenatal care recommendations based on Practice and Adoption in health facilities at Ifakara Town Council.

Methodology: A cross-sectional study

Results: The study found Adoption of the Tanzania 2018 ANC recommendation by 100% in all of the facilities with Practice by the pregnant women of 77.1%.

Conclusion: There is utilization of recommendations of the Tanzania 2018 ANC recommendations guideline.

Recommendation: Provision of suppliers and documenting materials like case note for pregnant woman and other laboratory materials for essential basic investigation to the pregnant women.

FRIDAY, 28TH JUNE 2024

ORAL PRESENTATIONS

SUBTHEME: Maternal, Newborn, Child and Adolescent Health

1. **Factors Influencing Pregnant Women's Knowledge, Perception, And Attitude Towards Premarital Sickle Cell Screening**

Author: **Asma Zain Ali**, Furaha August, Brian Abraham.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Tanzania has a high burden of Sickle Cell Disease, with approximately 11,000 babies born with Sickle Cell Disease (SCD) each year, ranking 5th in the world. This necessitates effective premarital screening to reduce this burden. However, limited data exist on factors influencing pregnant women's knowledge, attitudes, and perceptions toward premarital screening for sickle cell (PMS).

Objective: The study aimed to assess factors influencing knowledge, perception, and attitude toward premarital sickle cell disease screening among pregnant women.

Methodology: This was a cross-sectional study whereby 400 pregnant women were recruited. Data was obtained using a structured questionnaire. Data collected included socio-demographic, obstetric characteristics, knowledge, attitude and perception. Multivariable logistic regression was conducted to identify independent factors associated with knowledge, perception, and attitude towards premarital screening for sickle cell disease. A p-value of less than 0.05 was considered significant.

Results: The mean age was 29.8 years (SD ± 6.2) and 48% of pregnant women were aged 26-35. The proportion for knowledge was 6.5%, perception 68.7% and attitude 68.0% towards PMS. The multivariate regression analysis shows no factors associated with knowledge. However, college education (OR=3.1, 95% CI=1.37-6.90) and secondary education (OR=2.9, 95% CI=1.29-6.84) are associated with a positive attitude towards PMS. Positive perceptions of PMS are associated with being employed (OR=1.3, 95% CI=0.78-2.46).

Conclusion: The study identified a significant knowledge gap of PMS for SCD screening among pregnant women. Education and employment status influenced attitude and perception of pre-marital screening.

Recommendation: Addressing educational and socio-economic factors is crucial to enhance awareness and support for PMS, aiming to reduce SCD's impact on families and society.

2. **Short inter-pregnancy interval; its associated factors and related pregnancy outcomes among patients at Mnazi-Mmoja Hospital**

Author: Amney Suleiman, Projestine Muganyizi, Ali Saidi

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Short inter-pregnancy interval is associated with adverse maternal and fetal outcomes that contribute towards maternal and neonatal morbidity and mortality. This is backed up by causal mechanisms such as physiological regression and maternal depletion theories that support the relationship. As we strive to control the declining inter-pregnancy interval in Zanzibar, we need to understand the detrimental effects it will cause if it is not maintained within the recommended range.

Objective: Determine the prevalence of short inter-pregnancy intervals, its associated factors and related feto-maternal outcomes among women admitted at Mnazi-Mmoja Hospital

Methodology: Analytical cross-sectional study with 424 women enrolled by consecutive sampling technique conducted between October to December 2023. Structured questionnaires were used for data collection on socio-demographics and obstetric factors maternal and fetal outcomes. SPSS Version 23 is used for data analysis, with proportions representing categorical variables, while median and IQR are used for continuous variables. Logistic regression analysis was used to determine the measure of the effect of the association between variables

Results: The median age was 30 years, IQR [26-35] with a prevalence of short IPI of 35.6% and the significant differences in the proportions of short IPI were observed in age less than 35 years (aOR=1.08, 95% CI=1.09-3.02) and lack of use of family planning (aOR=2.06, 95% CI=1.26-3.38) as compared to their counterparts. In comparison with normal IPI, short IPI had significant higher odds of stillbirth (aOR=2.38, 95% CI = 1.29-4.39), low birth weight (aOR=4.19, 95% CI = 2.62-6.71), premature babies

Conclusion: The prevalence of short IPI was 35.6% with significant differences in the proportions in age less than 35 years (aOR=1.08,95%CI=1.09-3.02) and lack of use of family planning (aOR=2.06,95%CI=1.26-3.38). Short IPI had statistically significant higher odds of stillbirth (aOR=2.38,95%CI=1.29-4.39), low birth weight (aOR=4.19,95%CI=2.62-6.71), premature babies (aOR=5.04,95%CI=2.84-8.91), NICU admissions (aOR=2.27,95%CI=1.33-3.86), maternal anaemia (aOR=1.66,95%CI=1.09-2.54) and preterm labour (aOR=5.21,95%CI=3.07-8.83)

Recommendation: More than a third of women practised short IPI. As short IPI is a modifiable risk factor, adverse pregnancy outcomes can be prevented by addressing factors hindering adherence to the recommended IPI. In particular, the focus should be on identifying and eliminating barriers associated with family planning use and strengthening government efforts in the implementation of family planning services.

3. Infertility Patterns, Risks, and Fertility Treatment in Patients at Benjamin Mkapa Hospital: Analytical Cross-sectional Study

Author: **Anna Gideon Kasililika**, Hindu Ibrahim Hussein, Henry Stephen Joseph, Alphonce Bilola Chandika, Secilia Kapalata Ng'weshemi.

Affiliation: Benjamin Mkapa Hospital, University of Dodoma.

Background: Infertility affects 1 in 6 couples globally, leading to profound negative impacts on quality of life, including verbal/physical abuse, social stigma, sexual dysfunction, divorce and risks of multiple partners. Despite numerous studies on infertility patterns, risk factors, and treatments, clarity is lacking on these aspects among patients at Benjamin Mkapa Hospital in Dodoma Region, Tanzania.

Objective: This study aims to determine infertility patterns, risk factors, and prior fertility treatment utilization among patients at Benjamin Mkapa Hospital.

Methodology: The study, conducted at Benjamin Mkapa Hospital in Dodoma, involved 385 male and female infertility patients attending the Assisted Reproductive Clinic. Data collection utilized structured clinical proformas, capturing socio-demographics, risk factors, and prior fertility treatments through patient interviews. Data analysis, employing SPSS version 25, comprised descriptive and inferential statistics, with significance set at $p < 0.05$.

Results: Secondary infertility was predominant (59%). Multivariable logistic regression analysis identified significant risk factors: older age (38-43 years) (AOR 5.068, 95% CI 1.573-16.33, P = 0.007), marriage duration (>10 years) (AOR 0.406, 95% CI 0.189-0.873, P=0.021), infrequent sexual intercourse (<3 times/week) (AOR 0.554, 95% CI 0.348-0.883, P = 0.013), and cesarean history in females (AOR 1.152, 95% CI 0.0418-0.553, P = 0.004). Preexisting treatments included Assisted Reproduction technologies (4.94%), herbal medications (42%), with most males lacking medical or surgical infertility interventions.

Conclusion: Secondary infertility emerges as the dominant pattern, linked to advanced age, prolonged marriage, infrequent intercourse, and cesarean history. The study reveals suboptimal male infertility management, extensive herbal medication use among females, and limited Assisted Reproduction Technologies (ART) accessibility.

Conclusion: The study advocates for national-level implementation of ART services in public hospitals and the development of comprehensive guidelines for infertility diagnosis and treatment. Hospital-level recommendations include ensuring appropriate cesarean section procedures and training healthcare professionals in various fertility specialties. At the community level, emphasis is placed on health education regarding risk factors and fertility treatment options.

4. Caesarean Section in Temeke Municipality: Proportion, Indications, Maternal and Fetal Outcomes at Upgraded Health Centres.

Authors: Demetria Cosmas Matanda, Ali Said, Lilian Mnabwiru.

Affiliation: Muhimbili university of health and allied science

Background: Caesarean section (CS) is a critical surgical procedure that can save lives, but its access varies significantly between geographical locations, leading to disparities in maternal outcomes. Tanzania has been upgrading some of its health centers to provide CEmONC services to improve access and quality of maternal health. However, detailed information on the extent to which CS is performed, its indications, and outcomes in these upgraded health centers remains scarce

Objective: To determine the proportion, indications, and immediate outcomes of caesarean sections at the upgraded health centres in Temeke Municipality.

Methodology: A descriptive cross-sectional study analysed 432 medical files of women who gave birth at Maji Matitu, Yombo Vituka and Mbagala Round Table health centres in Temeke Municipality from 1st January 2021 to 31st December 2022. A structured checklist was used to extract information from medical records. Descriptive statistics using means, standard deviation, frequencies, and proportions were done in Statistical Package for Social Sciences (SPSS) version 23.0.

Results: The proportion of CS at upgraded health centers was 21%. The mean age of pregnant women was 26 years (SD ±5.6), with 92% between 18 to 35 years. Fetal distress (23%), and Robison Group one (47%) were the main indications. Among multigravidas, 79% were para 1 to 3, and 87% of newborns were term. 43% of the women were anaemic at the time of CS, 76% made 4 to 8 ANC visits, 98% stayed in the facility for 3 days and 100% had live births.

Conclusion: The study revealed a high CS rate in upgraded health centres. Fetal distress, previous history of caesarean section, and cephalopelvic disproportion were the commonest indications. Low risk women had the most CS. Generally, there were good immediate maternal and foetal outcomes, majority had three days of hospital stays, and babies had good birth weights and scored above seven.

Recommendation: Proper ANC screening of high-risk pregnancies is crucial to facilitate early referral to higher centers. Elective cesarean sections for women at risk should be avoided as they have risk of complications. Further studies should be conducted to gain insight on associated factors contributing to high cesarean section rate in upgraded health centres.

5. Neonatal Resuscitation Skills Retention One-Year After Implementation of Frequent Simulations in Geita and Shinyanga Regions.

Authors: **Florence Salvatory Kalabamu**, Robert Moshiro, Benjaman Kamala, Paschal Mdoe, Hege Ersdal, Rose Mpembeni

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Neonatal mortality is unacceptably high, especially in Low and Middle-Income Countries (LMIC). Most deaths are directly linked to suboptimal quality of care including inadequate skills among healthcare providers. To address this, the SaferBirths Bundle of Care intervention was implemented in five regions of Tanzania. Among the intervention components is to enhance skill and competency among healthcare providers.

Objective: To assess neonatal resuscitation skills retention one year after implementation of LDHF-SBF in selected facilities in Geita and Shinyanga Regions.

Methodology: This was a longitudinal study among healthcare providers working in the labour ward who have been participating in LDHF-SBT for neonatal resuscitation in selected facilities using the Helping Babies Breath (HBB) curriculum coupled with improved training tools. After initial training, skills evaluation was done using HBB-OSCE tools (version2). Skills evaluation was repeated one year after implementation. A comparison of mean scores at baseline and after one year was done using a Paired t-test.

Results: A total of 226 participants were recruited; 200 (88.5%) were nurses and midwives while the rest were clinicians. Overall, 174(77%) passed the skills evaluation one year after the intervention. Mean score at baseline was 94.5% ±5, and after 1-year it was 83%±10 t=11(158); p<0.001

Conclusion: The majority of participants passed skills evaluation a year after implementation of LDHF-SBT. There were a significant skills scores drop a year after implementation; however, this drop was lower compared to other similar studies in Tanzania. If utilized effectively, SBBC improved simulation tools and regular practice may be effective in retaining neonatal resuscitation skills among HCWs

Recommendation: This provides evidence for potential scale up of the intervention in other health facilities, and exploration of factors associated with skills retention to inform of mitigation measures for sustaining skills and competencies among healthcare workers.

6. Factors Influencing Menstrual Hygiene Practices Among Secondary School Adolescents Girls in Kisarawe District Council.

Authors: **Tecla Marisham**, Rehema Chande-Mallya, Hussein Mohamed

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Many adolescent girls in low- and middle-income countries experience significant problems associated with unsafe menstrual hygiene

management. Majority of adolescent girls in school undergo difficult situations during their menstruation period. Menstrual programs at schools, such as school menstrual hygiene programs and school wash programs, have been established, but the problem remains the same.

Objective: To determine factors influencing menstrual hygiene practices among secondary school adolescent girls in Kisarawe District Council.

Methodology: This study employed a cross-sectional design and was conducted among secondary school adolescent girls in the Kisarawe district. Stratified random sampling methods were employed. Data analysis was done using Stata 17.0, for which descriptive analysis was employed to summarise the findings; further analysis using logistic regression was utilised to determine factors associated with menstrual hygiene management practices among secondary school adolescent girls at the study site.

Results: A total of 426 girls participants participated, and their responses were analyzed. The majority were between 13 and 17 years old. In terms of menstrual hygiene practices, 68.2% of the girls had unsafe practices. Significant contributing factors for unsafe menstrual hygiene included Class level [AOR:1.90, 95% CI: 1.17-3.08], Not feeling comfortable using menstrual pads [AOR: 10.14, 95% CI: 2.22-44.06], being allergic to some menstrual materials (AOR: 3.14, 95% CI: 1.23-8.01], lack of health hygienic concern [AOR: 3.45, 95% CI: 1.52-7.79],

Conclusion: This study found a high prevalence of unsafe menstrual hygiene practices among secondary school adolescent girls in Kisarawe District Council. It reveals that a significant portion of these girls resort to reusing cloth for menstrual management, with sanitary pad usage being less common.

Recommendation: Key factors contributing to these unsafe practices include younger age, limited awareness about menstrual materials, allergies, a preference for discretion and comfort, health and hygiene concerns, attendance at rural schools, and enrollment in public/government institutions.

7. Visual acuity problems, access to care, and related academic performance among primary school students

Authors: **Michael Maizel**, Arisa Shichijo Kiyomoto, David Gitagno, Rachel Jared, Katalia Alexander, Joseph R. Egger, Anna Minja, Eric Van Praag, Emily Gower, Isaac Lema, Sylvia Kaaya, Joy Noel Baumgartner

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Globally, adolescents in low-resource settings face a disproportionately high burden of eye health problems. Approximately one in ten Tanzanians aged 15 or older live with some form of visual impairment. Little is known about young adolescent visual acuity (VA), whether screening could lead to follow-up care, and the relationship between VA and academic performance.

Objective: To estimate the prevalence of distance VA problems among adolescents, its relationship with academic performance, and describe access to eye care.

Methodology: The VITAA trial tests an Adolescent Wellness Visit intervention delivered to Standard 7 students in Bagamoyo and Kinondoni districts that includes a distance VA test [Snellen eye chart] during a free, school-facilitated, clinic-based health check-up. Adolescent data included exit surveys, medical chart extraction, and academic performance measured by the end-of-year Primary School Leaving Examination (PSLE). Focus group discussions were conducted with school and clinic staff and analysed thematically.

Results: Among 509 adolescent participants, screening indicated that 6.9% had moderately reduced vision and 4.3% had poor vision. Among those with normal, moderately reduced, and poor vision, PSLE grades of C or lower were 59.9%, 68.6%, and 77.3% respectively. Just 11.6% of students referred for follow-up care had seen a specialist one year later. Clinic and school staff indicated vision screenings were largely successful but with some operational barriers. Financial issues were the biggest driver of missed follow-up care.

Conclusion: Adolescents with reduced visual acuity may have worse academic performance and limited access to eye care services. School-facilitated vision screenings are an important first step for increasing healthcare access. Given the high prevalence of reduced visual acuity, strategies are required to improve adolescents' regular access to vision screening and to consider financial support for referred services.

Recommendation: To optimize adolescent health and education outcomes, the government should consider vision screenings in primary schools. Effective referral linkages for follow-up eye care should be coordinated between schools, clinics, and parents. Further research on the best implementation strategies and funding models is still needed.

8. Growing up amidst hazardous pesticides – Experiences from mothers raising children around horticulture farms

Authors: **William Nelson Mwakalasya**, Simon Henry Mamuya, Aiwerasia Vera Ngowi, Bente Elisabeth Moen

Affiliation: Muhimbili University of Health and Allied Sciences, Tanzania. Department of Global Public Health and Primary Care, Centre for International Health, University of Bergen, Bergen, Norway.

Background: In Tanzania, the horticulture sector predominantly relies on a female labor force, constituting up to 70% of its workforce. This sector is marked by intensive pesticide usage, exposing women to pesticide-related health risks. Some pesticides are highly hazardous and can induce human health effects from the earliest stages of development. There is, therefore, a challenge for women to balance between pregnancy/newborn care and farm work.

Objective: To explore the experience of mothers in nurturing their offspring within highly pesticide-contaminated horticultural environments.

Methodology: Utilizing a qualitative approach, the study conducted a series of focused group discussions (FGDs) with purposefully selected mothers having children aged 4 to 6 years. The study encompassed five FGDs, involving 46 participants from regions in eastern, central, and southern Tanzania with a strong horticultural presence. Data collection employed a semi-structured interview guide, and an inductive thematic approach guided the analysis.

Results: The study reveals that children born to women engaged in horticultural farming experience direct pesticide exposure from infancy. It was revealed from the discussions that many mothers return to farm work only a month after giving birth due to the lack of domestic assistance, young children unable to be left alone, the family's dependence on horticulture for livelihood, and financial constraints preventing the hiring of help. This exposure to pesticides continues throughout childhood.

Conclusion: This study highlights that children raised in horticultural communities are consistently exposed to pesticides from a very young age. They are unfortunate victims of their parent's occupations - growing up in environments contaminated with hazardous pesticides.

Recommendation: Multisectoral-centred interventions are needed to reduce these exposures, focusing on protecting children from potential long-term health consequences, particularly non-communicable diseases in later life.

9. Prevalence of Anxiety and Depression, Risk Factors and Correlation with Emotional Dysregulation Among Adolescents: Mixed-Method Study

Author: **Getrud Joseph Mollel**, Deo Mally, Edward Kija

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The rising global burden of mental illnesses among adolescents, particularly depression, anxiety and emotional disorders significantly impair their ability to thrive. Half of the estimated cases start by 14 years of age, but majority remain undiagnosed and unattended. The rationale behind the study was to establish evidence to support the need for routine screening and guide intervention design to address these disorders among school attending adolescents in Das es salaam.

Objective: To assess prevalence of anxiety and depression, their associated factors and correlation with emotional dysregulation among school-attending adolescents in Dar-es-salaam

Methodology: This mixed-method study involved adolescents from sixteen schools. Depression, anxiety and emotional dysregulation were assessed using PHQ-9, GAD-7, and DERS respectively. Correlation of DERS with anxiety and depression was assessed using Spearman's rank test. Kruskal-Wallis test compared DERS across anxiety and depression severity categories. Logistic regression was used to identify associated factors. Perceptions towards

depression and anxiety were explored using focus group discussions and in-depth interviews, followed by thematic analysis.

Results: Among 1111 adolescents, median age was 16 years, 59.6% were males, 62.2% secondary school students and 25.3% had separated/divorced parents. 35.8% had depression while 35.2% had anxiety. Emotional dysregulation scores increased with anxiety and depression severity. Risk factors included school workload, bullying, betting, substance use, sexual assault and parents' fights. Depression was associated with orphanhood (aOR 3.26 95%CI 1.45-9.34) and longer home-to-school commuting time (aOR 1.21 95%CI 1.01-1.41). Private school adolescents had higher odds of anxiety (aOR 1.65 95%CI 1.79-3.46).

Conclusion: Anxiety and depression were prevalent among school attending adolescents in Dar-es-salaam. Emotional dysregulation had a positive correlation with depression and anxiety. Associated factors included negative family dynamics, orphanhood, academic pressure, negative peer influence and exposure to adverse events. Common adverse exposures among adolescents were parents' fights, sexual assault, and alcohol and substance use.

Recommendation: Addressing anxiety and depression among school-attending adolescents require routine screening, enhancing adolescents' emotional intelligence and regulation of academic pressure. Community education on the negative effects of adverse exposures to adolescents is also of paramount importance. Schools present a conducive avenue to reach to a large number of adolescents for mental health promotion, early diagnosis and treatment.

10. "We endure greatly": Experiences of mothers caring for infants with neural tube defects at MOI.

Authors: Mwajabu Iddy, Belinda Balandya, Brian Muro, Deodatus Kakoko, John Mtei, Amani Kikula.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Children with congenital central nervous system anomalies, including neural tube defects, often experience long-term disabilities like lower-limb paralysis, incontinence, and learning difficulties. This places a significant care burden on their mothers, impacting both the mother's and child's quality of life across psychological, social, economic, and physical dimensions.

Objective: To explore mothers' experiences caring for children with neural tube defects admitted at Muhimbili Orthopedic Institute.

Methodology: A phenomenological explorative qualitative study focusing on the experiences of mothers caring for infants with neural tube defects was conducted from December 2023 to May 22, 2024. Criterion-based purposive sampling techniques were used, guided by information saturation. Ten in-depth interviews were conducted using a Swahili guide, and audio recordings were transcribed verbatim. Transcripts were coded using Dedoose to create a codebook, from

which themes were identified and named. Deductive thematic analysis was conducted.

Results: We have identified three compelling themes: economic experiences, psychological and physical experiences, and social experiences. The care of an infant with a neural tube defect had several financial implications for the mother, but these were worked out with the support of their significant others. The mothers also experienced various emotional, physical, and social challenges while caring for their infants.

Conclusion: The experiences of mothers caring for infants with neural tube defects are complex and multifaceted. In addition to providing direct care for the infant, mothers also face various challenges that can impact their ability to provide care. These challenges include economic, social, psychological, and physical factors.

Recommendation: There is a need for a comprehensive integrated care plan addressing issues concerning mother's experiences following the delivery of children with anomalies. The plan will consist of proper counselling on the diagnosis, continued and enhanced support from health services, and patient advocacy groups providing additional information and support.

SUBTHEME: Non-Communicable Diseases, Mental Health, Surgery and Nutrition

11. Experience of male partners of cervical cancer survivors at BCC in Mwanza, Tanzania

Author: Felister Mussa Willium

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Cervical cancer, affecting over 600,000 women globally, is a major health concern, especially in low- and middle-income countries like Tanzania, where incidence rates are exceptionally high at 54 per 100,000 people. Despite advances in early detection and treatment, survivors often face significant challenges such as sexual distress, intimacy issues, and relationship problems. Limited research on male partners' experiences in Tanzania highlights the need for further studies in this area

Objective: To explore the experience of male partners of cervical cancer survivors at Bugando Cancer Centre in Mwanza, Tanzania.

Methodology: This phenomenological qualitative study recruited 12 male partners of cervical cancer survivors using purposive sampling. Data were collected through in-depth interviews guided by a structured framework. The interviews were recorded, transcribed, and then coded. Analysis was conducted using a thematic approach to identify key themes and insights.

Results: Themes identified that male partners of cervical cancer survivors confront many challenges. They endure emotional distress witnessing their partner's diagnosis and treatment, grappling with fear, sadness, and anxiety. Communication barriers strain relationships as they struggle to express feelings and concerns. Role changes demand adjusting to new caregiving responsibilities. Intimacy issues arise, compounded by social isolation and financial strain. Psychosocial impact, cultural stigma, and self-care neglect amplify their burden, while the fear of losing their partner looms large

Conclusion: Male partners of cervical cancer survivors face significant emotional distress, communication barriers, role changes, and sexual intimacy issues. Social isolation, financial strain, psychosocial impact, cultural stigma, neglect of self-care, and fear of loss are prevalent. Addressing these challenges requires enhancing communication, providing emotional and financial support, promoting community awareness, and fostering caregiver networks to support male partners effectively.

Recommendation: Establishment of comprehensive support networks for male partners, addressing emotional distress, communication barriers, and psychosocial impact. Education to communities on cervical cancer to reduce stigma. Provision of financial assistance to ease treatment costs. Offering of male-specific counseling services for sexual intimacy issues, role changes, and fear of loss, promoting mental well-being. Prioritizing tailored support programs to enhance the overall experience for male partners.

12. Lung Function Abnormalities and Associated Factors Among Children and Adolescents with Sickle Cell Anemia at Muhimbili National Hospital

Authors: **Irene Karamaga**, Zawadi Edward, Nana Nakiddu

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Sickle Cell Anemia (SCA) is a chronic genetic disorder that affects millions of children and adolescents worldwide. One of the complications of SCA is lung function abnormalities, which can significantly impact the quality of life and has long-term outcomes. Despite a high prevalence of SCA there is limited data on the magnitude of lung function abnormalities and associated factors among children and adolescents with SCA.

Objective: To determine the proportion of lung function abnormalities and associated factors among children and adolescents with SCA at Muhimbili National Hospital

Methodology: A hospital-based cross-sectional study conducted on children and adolescents aged 8-18 years who attended sickle cell clinics from October 2023-March 2024. Socio-demographic and clinical profile data were collected using structured questionnaires. Spirometry measuring the Forced Expiratory Volume

in 1 second (FEV1), Forced Vital Capacity (FVC) and Peak Expiratory Flow (PEF) was sued to measure lung function. Quantitative data was summarized and analyzed accordingly.

Results: A total of 306 children and adolescents aged 8-18 years were recruited into the study, females were predominant with 53.9%. The proportion of children and adolescents with abnormal lung function was 70 (22.9%). Out of those with abnormal lung function 38.2% were between 16-18 years of age, 25% were not on hydroxyurea treatment and 22.1% were underweight. None of the factors included in this study were independently associated abnormal lung function in the multivariate regression analysis.

Conclusion: Abnormal lung function is common among children and adolescents attending sickle cell outpatient clinic at MNH. This implies that chronic lung disease may go undetected and can contribute to morbidity and mortality in this population. None of the studied factors was independently associated with abnormal lung function test among children and adolescents with sickle cell anemia.

Recommendation: Periodic screening with spirometry may be necessary to allow for patient categorization and as part of the comprehensive care for children and adolescents with Sickle Cell Anemia. Further studies that will include additional factors that may contribute to abnormal lung function in this population.

13. Prevalence and Determinants of readmission among HF patients at JKCI.

Author: **Sophia Machui**, Mohamedi Janabi, Khuzeima Shabiri, Hussein Khanbhai

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Despite advancements in therapies, readmission due to Heart Failure (HF) remains a significant issue, with over 50% of patients experiencing rehospitalization within six months. Understanding factors contributing to readmission can inform targeted interventions to improve patient outcomes and care quality.

Objective: This study aims to ascertain the prevalence and determinants of readmission among HF patients at JKCI

Methodology: A cross-sectional study was conducted involving 363 adult HF patients admitted at JKCI between September 2023 and February 2024. Data, including demographics, HF symptoms, medical history, clinical examinations, and medication adherence, were collected using standardized tools. Diagnosis was based on Framingham criteria, clinician decision, and echocardiography. Statistical analysis employed SPSS 23, with modified Poisson regression used to identify factors associated with HF readmission (P<0.05).

Results: Of the 363 participants, 52.9% were male, with a median age of 60 years. The prevalence of HF readmission was 68.9%, with 38.6% occurring within one-month post- discharge. Factors associated with readmission included age ≥60 years (aPR=2.5, 95% CI=1.13- 5.79), alcohol use (aPR=3.3, 95% CI=1.25-9.06), hypertension (aPR=2.5, 95% CI=1.31-4.84), chronic kidney disease (aPR=2.6, 95% CI=1.12-5.6), anaemia (aPR=2.0, 95% CI=1.06-3.76), poor drug adherence (aPR=2.1, 95% CI=1.18-3.57), and delayed post-discharge follow-up (aPR=4.9, 95% CI=2.42-24.4).

Conclusion: The study highlights a high prevalence of HF readmission at JKCI, with identified factors including advanced age, alcohol use, poor drug adherence, comorbidities (HTN, CKD, Anaemia) and healthcare follow-up delays

Recommendation: A joint effort is required to address the identified factors by providing sustainable education regarding alcohol use, and good drug adherence to lower the rate of readmission among HF. Also make sure all HFs are seen within 2 weeks post-discharge as recommended.

14. Dermatological disorders among CKD patients at MNH: Prevalence, pattern, associated factors and impact on QoL

Authors: **Conrad Agonza**, Muhammad Bakari, Jacqueline Shoo

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Dermatological disorders in chronic kidney disease (CKD) are common. They can occur in denovo or as a consequence of CKD itself, underlying etiology, or treatment modality. However, locally, there is limited current information on their clinical presentation and their effect on the quality of life (QoL) of these patients.

Objective: To determine the prevalence, pattern, and associated factors for dermatological disorders, and their impact on the QoL of CKD patients

Methodology: A cross-sectional study involving 225 adult CKD patients was conducted from September 2023 to January 2024 at the MNH. Following dermatological examination, digital photographs of all skin lesions were taken for diagnosis confirmation by a Dermatologist. The impact on QoL was assessed using the Dermatology Life Quality Index (DLQI). Factors associated with the dermatological disorders were assessed using the Modified Poisson regression model. A p-value <0.05 was considered statistically significant

Results: The study involved 225 CKD patients, of whom 60.9% were male. The median age was 55 years (IQR 43,64). Among the participants, 64% were hypertensive, and 65.3% were on haemodialysis. The overall prevalence of dermatological disorders was 88.9%. The common dermatological manifestations were pallor (90.5%), xerosis (47.8%), pruritus (29.6%), and onychomycosis

(25.6%). HIV (aPR 1.17), hyperphosphatemia (aPR 1.21) and anemia (aPR 1.72) were independent predictors of dermatological disorders. Pruritus was the only significant predictor of impaired DLQI (p<0.001)

Conclusion: Dermatological disorders are highly prevalent among patients with CKD in our setting and are strongly associated with HIV, hyperphosphatemia and anemia. The dermatoses, in particular; pruritus, are associated with a significant negative impact on QoL. This study highlights the significant burden that dermatological disorders add to CKD

Recommendation: The information on the findings of predictors of dermatoses should be disseminated to practitioners attending these patients to emphasize the importance of appropriately monitoring and managing correctable factors associated with these dermatoses. Some correctable causes include anemia, hypocalcemia and hyperphosphatemia. Incorporation of DLQI tool in management of these patients is of paramount importance so as to improve their QoL

15. Myocardial Infarction in young African men- A case series

Authors: **Smita Bhalia**, Khuzeima Khanbhai, George Longopa, Yona Gandye, Tulizo Shemu, Tatizo Waane, Pilli Chillo, Peter Kisenge

Affiliation: Jakaya Kikwete Cardiac Institute

Background: Acute myocardial infarction is traditionally known as a disease of above 45 years with multiple risk factors. With lifestyle changes, risk factors such as physical inactivity, obesity and overweight, smoking, and emerging conditions are rising rapidly thus the rise in acute myocardial infarction among young individuals.

Objective: to share experience on how young African men can present with acute myocardial infarction

Methodology: retrospective interview of the young African men on traditional risk factors who presented to JKCI with typical angina pain and had positive coronary angiography.

Results: Three African men below the age of 40years with a low-risk profile that is no traditional risk factors such as obesity, hypertension, diabetes, smoking, dyslipidemia, or positive family history of sudden cardiac death presented with typical angina pain and upon coronary angiography were found to have significant blockage of coronary artery requiring revascularization

Conclusion: With emergency disease conditions, Polycythaemia is gaining popularity in causing Myocardial infarction among young Men.

Recommendation: All chest pain should be given serious attention and basic investigation such as ECG can help save life.

16. Pattern of Arrhythmias Among Patients with Heart Failure Admitted at JKCI

Author: **Luginy'o Ilomo**, Mohamed Janabi, Yona Gandye

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Arrhythmias significantly impact the mortality and morbidity of individuals with heart failure, placing a substantial burden on healthcare systems worldwide. However, a detailed understanding of the specific arrhythmia patterns among patients admitted to the Jakaya Kikwete Cardiac Institute (JKCI) remains lacking.

Objective: To determine the prevalence, types, and subtypes of arrhythmias in patients with heart failure admitted to JKCI

Methodology: We conducted a four-month hospital-based cross-sectional study involving 241 participants who met inclusion criteria and provided consent. All participants were diagnosed with heart failure based on the Framingham criteria, and necessary investigations, including electrocardiograms (ECGs), were efficiently performed. Data analysis was done using SPSS as the standard statistical software.

Results: Our study revealed a prevalence of arrhythmias among heart failure patients admitted to JKCI at 48.1%. Supraventricular arrhythmias were predominant, with atrial fibrillation (AF) accounting for 14.5% of cases among all heart failure patients and 30.2% among those with arrhythmias. Sinus tachycardia followed at 19.0%, and premature ventricular contractions (PVCs) at 12.1%. Heart blocks were also common, with first-degree heart block being the most prevalent at 11.2%.

Conclusion: Nearly half of heart failure patients at JKCI exhibit arrhythmias. Understanding the various arrhythmia types is crucial for improving management strategies. Supraventricular arrhythmias, particularly atrial fibrillation, represent the most common subtype among arrhythmic heart failure patients, impacting 30.2% of this population and 14.5% of all heart failure patients.

Recommendation: Close monitoring with appropriate management is crucial for patients with arrhythmia in heart failure. This can help reduce mortality rates. If there is no access to an ECG machine within the facility, consider initiating AF treatment based on existing studies AF is a significant pattern of arrhythmia in heart failure patients. Additionally, conducting similar studies in other centers can help

17. The Speed of Wound Size Reduction Among Patients with Septic Wounds on Different Dressing Materials.

Authors: **Jenikalo Kaguo**, Godfrey Mchele, Mabula Mchembe

Affiliation: Muhimbili University of Health and Allied Science

Background: Septic wounds are among the most frequent causes of unfavorable occurrences in hospitalized patients, making them a serious and can affect anyone. Globally, septic wounds are a significant cause of morbidity and mortality, particularly in low- and middle-income countries. Also, septic wound is associated with increased hospital stay, psychological torture, readmission rates, and health care costs. However, in Tanzania, the efficacy of that combination of cleansing and dressing haven't been reported.

Objective: To assess the speed of wound size reduction on normal saline cleansing and different combinations of dressing materials.

Methodology: This was a prospective cohort observational study where a quantitative data collection method was deployed. The speed of wound size reduction was the outcome variable on different dressing materials in 3 weeks, patients with septic wounds were recruited in the study. Participants were cleansed with NS and dressed differently Povidone, Honey, povidone + honey, Percentage wound reduction was calculated using change in surface area. with p value 0.05 being significant statistically

Results: A total of 67 patients admitted with septic wounds at MNH were recruited, of these 39(58.2%) were male, and the mean age (standard deviation) was 46.1(15.1). More than one quarter of 20(29.8%) were aged more than 54 years. The percentage reduction in wound size was 83% dressed in honey, 80% for both povidone + honey, and 70% for those dressed with povidone alone. different combinations of cleansing and dressing materials were statistically significantly associated with a wound size reduction p value = 0.006

Conclusion: This study results have indicated that the efficacy of honey and povidone plus honey is significantly higher compared to dressing with povidone-iodine alone in septic wounds. Septic wounds have social, economic, and community impact, as our study results recommend using honey or povidone-iodine honey as it is reliable, speeds up wound healing shorts hospital stays, and is cost-effective.

Recommendation: 1. We recommend a patient with a septic wound be cleansed with normal saline and dressed with honey alone or in combination with povidone, 2. A randomized controlled trial on different dressing materials used in septic wound healing is highly advised to assess the speed of wound size reduction with an adequate follow-up time of not less than 8 weeks.

18. Restless Legs Syndrome: Prevalence, Severity, Associated Factors and Effect on Daytime-Sleepiness among MNH haemodialysis patients.

Authors: **Shaneabbas Mohamed**, Jonathan Mngumi, Paschal Ruggajo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Restless Legs Syndrome (RLS) is a chronic motor-sensory, sleep-related movement disorder. Among patients undergoing hemodialysis therapy, RLS has a notably higher prevalence and severity compared to the general population and often remains underdiagnosed and undertreated. RLS has been associated with poor quality of life, decreased survival rates, and increased mortality in hemodialysis patients. However, to date, no studies have specifically addressed RLS in patients undergoing haemodialysis in Tanzania.

Objective: To determine the prevalence, severity, and associated factors of RLS and its effect on daytime sleepiness among Muhimbili National Hospital (MNH) hemodialysis patients.

Methodology: A cross-sectional study was conducted from August 2023 to January 2024 at MNH's hemodialysis unit and enrolled End Stage Kidney Disease (ESKD) patients on hemodialysis aged ≥ 18 years. Consecutive recruitment was done. The revised IRLSSG-2012 questionnaire was used to diagnose RLS, the IRLSSG rating scale to determine the severity, and the Epworth sleepiness scale to determine daytime sleepiness. A binary logistic regression model was used to assess for factors associated with RLS. A p-value < 0.05 was considered statistically significant.

Results: This study recruited 348 patients with a median age of 50 (±12) years. The prevalence of RLS was found to be 10.1% and about 91% had moderate to severe RLS. Advanced age ≥ 60 years, being underweight, having HIV infection, HD inadequacy with URR < 65%, and higher predialysis urea levels were independently associated with RLS. Furthermore, patients with RLS had three times more excessive daytime sleepiness (62.9%) compared to those who had no RLS (20.4%) and this was statistically significant (p <0.001).

Conclusion: Approximately one in every ten patients with ESKD undergoing hemodialysis therapy at MNH experienced RLS, with the majority exhibiting moderate to severe symptoms. RLS was independently associated with advanced age ≥60years, underweight status, HIV infection, HD inadequacy and high predialysis urea levels. Additionally, RLS patients were three times more likely to experience excessive daytime sleepiness compared to those without RLS.

Recommendation: Based on our study, we recommend routinely using diagnostic tools to identify Restless Legs Syndrome in End Stage Kidney Disease patients on hemodialysis therapy. Additionally, implementing risk factor assessment and mitigating modifiable risk factors in high-risk individuals. Achieving this requires a comprehensive, multidisciplinary approach involving nephrologists, nutritionists, and other healthcare professionals.

19. Ct Detection of Abdominopelvic Metastasis and its Association with Hormonal-Status Among Breast-Cancer Women at MNH

Authors: **Salama Aziz**, Lulu Sakafu, Mboka Jacob, Revelian Iramu

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Breast cancer is a prevalent cancer among women globally, Tanzania included. Metastasis in the abdominal-pelvic region is indicative of an advanced stage of the disease. Understanding the relationship between CT findings and hormonal receptor status is crucial for tailoring treatment and managing the disease.

Objective: The study aimed to determine CT findings of abdominopelvic metastasis and its association with hormonal status in breast cancer women

Methodology: A descriptive cross-sectional study was conducted at ORCI from July 2020 to December 2022, enrolling 140 patients with breast cancer. Abdominopelvic CT findings, staging, and hormone status data were recorded. Data analysis was performed using SPSS Version 24, with multiple logistic regression used to examine the factors associated with metastases. Statistical significance was set at a p-value of 0.05 or lower.

Results: The majority (92%) of patients with breast cancer were > 40 years old, with a mean age of 53.71±11 years. Approximately 52.9% had abdominal pelvis metastasis, and the liver was the most common (47.9%) site involved. The majority (81%) of patients had advanced-stage 4, and most were hormonal receptors negative. Estrogen (ER) (AOR: 5.23, 95% CI: 2.32-11.76, p < 0.001, progesterone (PR) (AOR: 0.64, 95% CI: 0.55-0.74, p < 0.001) positive statuses and TNBC (AOR: 1.28, 95% CI: 1.15-1.42, p < 0.001) were significantly

Conclusion: Most breast cancer patients were hormonal receptor negative, generally having a poor prognosis. The liver was the most affected organ. Tumour stage and hormonal positive receptor status were the key predictors of abdominal pelvic metastasis.

Recommendation: CT for detection of abdominal pelvic metastasis is recommended for patients with hormonal receptor positive. Further research is to be done aimed at understanding the underlying factors contributing to late-stage diagnosis and prognosis of negative hormonal receptor statuses in breast cancer patients in Tanzania.

20. Investigating Use of Urine for Detection of Hr-HPV Among Women Screening for Cervical Cancer.

Authors: **Brenda B kweyamba**, Daniel Maeda, Mkunde S Chachage, Chacha J. Mwita, Salum J Lidenge, Julius Mwaiselage, Charles Wood, Peter C. Angeletti.

Affiliation: Ocean Road Cancer Institute

Background: Fewer than 22% of eligible women have been screened in Tanzania. This low uptake is attributable to privacy concerns (techniques used), accessibility, and delay in results attainment during screening. Therefore, this study tested the self-collected urine as an alternative to health-provider-collected cervical swabs to acquire HPV DNA.

Objective: This study analysed hr-HPV sub-types in self-collected urine samples and Health practitioner-collected cervical swabs with Associated behavioral characteristics.

Methodology: 132 women visiting the women's clinic were consented to, given a questionnaire, and screened for high-risk HPVs (HrHPVs) using paired urine versus cervical swabs. Extracted DNA from paired samples was tested for HrHPVs using the AmpFire HPV screening 16/18/HR (RT PCR) kit. The concordance test was calculated. Data was analyzed using SAS9.4 Software.

Results: 132 cervical swabs and 104 urine samples were analyzed with 28 excluded due to quality issues. The median age of study participants was 42 years (IQR;36-49). Hr-HPV prevalence was 34% in cervical swabs and 19.20% in urine (p=0.0169). HPV-16 was the most prevalent sub-type in the cervical and urine samples, with higher rates of multiple than single infections detected in such samples. The concordance of HrHPV detection between urine and cervical swabs was fair (Kappa = 0.241;95% CI, 0.053-0.429).

Conclusion: Findings of a fair agreement between the urine and cervical swab samples suggest that urine testing, paired with Visual Inspection with Acetic acid (VIA), may be sufficiently effective.

Recommendation: Practitioners should consider alternate sample collection methods to increase screening reach.

21. Choice for vascular access type for hemodialysis: patterns, associated factors and impact on QoL

Authors: **Patrick Nyambita Muyenge**, Muhammad Bakari, Onesmo Kisanga

Affiliation: Muhimbili University of Health and Allied Science

Background: Haemodialysis (HD) is vital for end-stage renal disease (ESRD) management, with vascular access crucial for its efficacy. In Tanzania, increasing HD services necessitates an understanding of factors influencing vascular access choice and their impact on patient quality of life. This study aimed to delineate these patterns and factors guiding informed decision-making in Tanzanian healthcare with reference to Internationally accepted guidelines

Objective: To determine the pattern, patients' associated factors that affect the choice of vascular access, and their impact on QoL

Methodology: A cross-sectional study involving 205 patients undergoing HD for at least 3 months was carried out at MNH between September 2023 and February 2024. We collected data on socio-demographic, clinical, and laboratory factors. Factors associated with the choice of vascular access types were determined using a multinomial logistic regression and the impact of such choices on QoL was assessed by Pearson correlation coefficient on VAQ and KDQOL (p-value < 0.05)

Results: Of the 205 enrolled patients, males were 77.1%. The overall mean age was 51.9±13.5 years. The commonest type of access at the start of HD was non-tunnelled central venous catheter CVC (95%), subsequently transitioning to arterio-venous fistula (AVF) (39%) and tunnelled CVC (34%). Low education level and shorter duration on HD influenced the type of access choice and were also found to be predictors of good QoL. Overall, good QoL was observed in patients with AVF

Conclusion: CVC rather than early AVF was the commonest choice for vascular access. Patient education level and HD duration influenced this selection. However, the overall quality of life for HD patients was good

Recommendation: Healthcare workers should proactively refer patients with ESRD to a Nephrologist for decisions on choice of vascular access type in line with KDOQI recommendations

22. Assessment of Gastric Cancer Magnitude, Findings, Factors, and Outcomes at Muhimbili National Hospital

Authors: Mario Nyakiha, Ewaldo Komba, Tuzo Lyuu

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Gastric cancer is a malignant neoplasm originating from the stomach's inner lining. It remains one of the prevalent and fatal cancers worldwide. In Tanzania, 92% of patients present at advanced stages (3rd or 4th) due to low disease awareness, insufficient diagnostic resources, and delays in OGD and biopsy confirmation. These challenges highlight the urgent need for improved awareness and resources to facilitate early detection and better management of gastric cancer.

Objective: To determine the magnitude, endoscopic and histopathological findings, associated factors, and short-term outcomes of gastric cancer at MNH.

Methodology: A hospital-based descriptive cross-sectional study with a 3-month follow-up was conducted from September 2023 to February 2024. Adults (18+)

were consecutively enrolled at Muhimbili National Hospital's gastroenterology and hepatology center. Data were collected via questionnaires, endoscopic observations, and histopathology results from the JEEVA system. Helicobacter pylori IgG antibody tests were performed. Statistical analysis included chi-square tests and logistic regression using SPSS v23. Ethical clearance was obtained from MUHAS.

Results: Among 870 participants (mean age 53.4 years), gastric cancer prevalence was 8.9%, primarily adenocarcinomas in the gastric antrum. Significant factors included smoking (OR = 2.96), poor food preservation (OR = 2.49), and positive H. pylori antibody serology (OR = 3.69). High mortality (45.5%) was observed within 90 days, particularly in those with comorbidities and about 88.7% receiving palliative care and only 9.1% eligible for curative treatment.

Conclusion: The study at MNH found an 8.9% prevalence of gastric cancer, primarily adenocarcinomas. Significant factors included smoking, poor food preservation, and H. pylori infection. High 90-day mortality (45.5%) emphasizes the need for early detection and improved treatment. These findings highlight the impact of lifestyle and infection on gastric cancer and underscore the importance of comprehensive patient management.

Recommendation: Recommendations include public health initiatives to promote smoking cessation, healthy dietary practices, and proper food preservation. Enhanced screening programs for high-risk populations and improved access to endoscopic and histopathological services are crucial. Continued research on genetic and environmental factors in gastric cancer and longitudinal studies on intervention impacts are needed to inform future policies and practices.

23. Prevalence and Factors Associated with Alcohol Use Disorder Among PLHIV Attending CTCs In Moshi Municipal, Kilimanjaro

Authors: **Florian Emanuel**, Saidi Kuganda, Samuel Likindikoki

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Alcohol Use Disorder (AUD) is very common among People living with HIV (PLHIV) with 2-6 times the overall population's prevalence. It has been indicated that AUD is connected to higher rates of morbidity and mortality among PLHIV by directly hindering viral suppression, exacerbating immunosuppression, and lessening cognitive function and indirectly by impairing antiretroviral therapy (ART) adherence. There is paucity of data on this problem in Tanzania particularly in Kilimanjaro.

Objective: To determine the prevalence and associated factors of AUD among PLHIV attending Care and Treatment Centers (CTC) at Moshi Municipal,

Methodology: This was a cross-sectional study that took place at CTC centers at Moshi Municipal. A multiple-stage cluster sampling method was utilized to choose CTC centers and participants. Data were collected by using standardized tools. Four trained research assistants assisted in data collection using REDCap software. Data were entered using SPSS version 25 and all analyses were performed with a 95% confidence interval and $p<0.05$, including bivariate and multivariate logistic regression.

Results: A total of 532 participants were enrolled in this study, nearly three-quarters (71.4%) of them being females. The mean age of the participants was 46.6 (SD+13.3). Overall, nearly half of all participants recruited (48.1%) reported using alcohol in the past 12 months. The prevalence of Alcohol Use Disorder (AUDIT > 8) in the past 12 months was 23.1%. Factors associated with AUD were male gender, study site, level of health facility, marital status, education level, depression, and ART non-adherence.

Conclusion: AUD is quite common among PLHIV whereby nearly one in four of PLHIV had AUD which is similar to most of the studies on PLHIV from both high and low-middle-income countries. Male gender, being treated at primary and secondary health facility levels, being divorced or widowhood, having at least a secondary education, depression, and having poor adherence to ART.

Recommendation: Mental health services should be integrated at CTC centers utilizing the Mental Health Global Action Plan Intervention Guide (mhGAP-IG) that will enable CTCs to conduct routine screening for AUD at the time of enrolment into care and at regular intervals thereafter. Basic counseling techniques like motivational interviewing should be enhanced for nurses as well as clinicians serving at CTCs.

24. Unveiling the Veil: Exploring Awareness of Hypertension Lifestyle Risks in Iringa Urban District, Tanzania.

Author: Irene Mzokolo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Hypertension, recognized as a pervasive global health concern, significantly contributes to the incidence of cardiovascular diseases, stroke, renal complications, and premature mortality. Prevalence rates vary across regions, with the African region bearing the highest burden. The surge in hypertension prevalence is multifactorial, attributed to demographic shifts, lifestyle choices, and behavioral factors such as diet and physical inactivity. Addressing these modifiable risk factors is pivotal in hypertension management.

Objective: This study aimed to evaluate the awareness of lifestyle factors predisposing adults to hypertension in the Iringa Urban district, Tanzania.

Methodology: A cross-sectional descriptive study was conducted utilizing systematic sampling among 380 adults aged 18 to 60 years. Exclusions comprised

terminally ill individuals, those with sensory or mental impairments, and pregnant and postpartum women. Standardized self-administered questionnaires were employed for data collection, and subsequently analyzed using SPSS version 20.

Results: Findings revealed a significant lack of awareness regarding hypertension among a majority (53.2%) of participants, with hypertension prevalence at 6.1% and pre-hypertension prevalence at 19.2%. Although participants demonstrated commendable knowledge regarding dietary and physical activity-related hypertension risk factors (72.9% and 76.3% respectively), the prevalence of poor dietary habits was high (88.4%). Conversely, a substantial proportion (87.9%) exhibited satisfactory levels of physical activity concerning hypertension.

Conclusion: In conclusion, the study underscores a concerning increase in pre-hypertension rates, potentially exacerbating future hypertension burdens. Furthermore, the majority of individuals lack awareness regarding hypertension and its associated lifestyle risk factors. These findings advocate for heightened public awareness campaigns targeting lifestyle modifications to mitigate hypertension prevalence and associated complications.

Recommendation: Considering the high prevalence of poor dietary habits observed in this study, future research focusing on salt sensitivity could provide valuable insights for early prediction and targeted intervention strategies aimed at reducing hypertension incidence. To increase awareness of modifiable lifestyle risk factors, as shown that the prevalence of awareness of dietary risk factors for this area was still low.

25. Prevalence, Disease Severity, Treatment Options and Median Survival of Patients With Aplastic Anemia at MNH, Tanzania

Author: Gladys N Kaaya

Affiliation: Muhimibili University of Health and Allied Sciences

Background: Aplastic anemia, is an uncommon form of bone marrow failure that exhibits pancytopenia occurring with a noticeably hypo cellular marrow. The pathogenesis is believed to be immune-driven hematopoietic stem cell death. Its prevalence varies greatly between countries. The introduction of immunosuppressive therapy and bone marrow transplant has greatly improved the survival outcome of this disease. There is a lack of recent prevalence and survival data in Tanzania.

Objective: To determine prevalence, disease severity, treatment options and factors associated with median survival of patients with aplastic anemia at MNH.

Methodology: This is a retrospective cohort study, which examined patients diagnosed with aplastic anemia at MNH from January 2018 to December 2023. Using census and consecutive sampling, 156 patient records were retrieved from

medical records and the Jeeva system. Data was collected via abstraction forms and analyzed with STATA version 17. Descriptive statistics described patient characteristics, Kaplan-Meier curves estimated survival outcomes, and Cox regression assessed factors associated with mortality risk.

Results: Of the 577 patients diagnosed with pancytopenia, 156 (27%) had acquired aplastic anemia, with a median diagnosis age of 23 years and a male-to-female ratio of 1.5:1. Severe forms were present in 85.9%: SAA (49.4%) and VSAA (36.5%). Treatment included cyclosporine (59.8%), supportive care only (21.8%), intensive immunosuppressive therapy (14.1%) and others (4.5%). Only 3 patients (1.9%) received bone marrow transplant abroad. The one-year survival rate was 38.5%, with a median survival of 158 days. Treatment regimen significantly influenced prognosis.

Conclusion: The study found that acquired aplastic anemia in pancytopenia patients had a high severity, with poor overall survival. Treatment regimen significantly influenced prognosis, with cyclosporine and supportive therapy being common. Better outcomes were seen in patients treated with intensive immunosuppressive therapy and bone marrow transplants. This highlights the need for improved treatment strategies, especially given the limited access to transplant.

Recommendation: To improve outcomes for patients with acquired aplastic anemia, it's recommended to increase access to bone marrow transplants and intensive immunosuppressive therapy. Enhancing supportive care and early diagnosis is crucial. Additionally, developing local capabilities for bone marrow transplantation could significantly improve survival rates and provide better treatment options for those unable to seek treatment abroad.

26. Coronary Artery Disease in Young Adults Undergoing Coronary Angiography at JKCI; Prevalence and Risk Factors

Author: **Elifuraha Nicholao**, Mohamed Janabi, Tulizo Shemu

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Coronary artery disease (CAD) is a condition characterized by reduced blood flow to the heart muscle due to the build-up of atherosclerotic plaques in the heart's blood vessels. Premature CAD affects men under 45 years and women under 55 years and is a significant non-communicable disease leading to 17.8 million deaths annually worldwide, with increasing incidence in third-world countries.

Objective: The study aims to determine the prevalence, associated risk factors, and angiographic profile of premature CAD patients undergoing coronary angiography

Methodology: A prospective cross-sectional study was conducted over 7 months at JKCI. A total of 289 angiographically confirmed patients aged 18 and above were consecutively recruited. Data and angiographic results were collected using a standardized questionnaire. Patients were categorized as premature or mature CAD cases. Statistical analysis was performed using SPSS version 23, including multivariate analysis with a significance level of $p < 0.2$ and logistic regression techniques with $p <$

Results: The study found a prevalence of premature CAD at 14.9%. Patients with premature CAD showed higher rates of low physical activity, hyperlipidemia, obesity, positive family history of CAD, alcohol use, and single-vessel disease compared to mature CAD cases. Logistic regression identified independent associated factors such as male sex, obesity, low physical activity, and family history of heart disease.

Conclusion: The study highlights the alarming prevalence of premature CAD in the country, predominantly affecting men with low physical activity, obesity, and a family history of heart disease as key independent risk factors. Controlling modifiable risk factors is crucial to reducing the incidence and impact of premature CAD.

Recommendation: We suggest conducting more local studies with larger sample sizes to enhance the available database for reference comparisons. Additionally, exploring other risk factors like recreational drug use, autoimmune diseases, and anabolic steroids in relation to premature CAD is encouraged for future research.

27. Doppler Sonographic Evaluation of Peripheral Arterial Disease and its Associated Factors Among Diabetes Mellitus Patients

Authors: **James Sumawe**, Lilian Salingwa, Irene Mhalu.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Peripheral arterial disease is more prevalent among patients with Diabetes Mellitus. PAD should be recognized as an increasingly global problem as its overall prevalence and associated risk factors are on the rise, PAD can lead to critical limb ischemia and eventually amputation which can significantly affect the quality of life. Duplex sonography, a widely available, non-invasive imaging modality is still underutilized in the evaluation of lower limbs PAD.

Objective: This study aimed to investigate the proportion of PAD among DM patients and its associated risk factors in our setting

Methodology: Convenience sampling was used to enroll 80 adult DM patients attending MNH and suspected of PAD between April 2023 and March 2024. The associations between independent and dependent categorical variables were examined using, binary regression analysis and multivariable regression analysis

was conducted to determine both crude and adjusted odds ratios for each independent variable.

Results: The study included 80 DM patients suspected with PAD with a mean age of 61.2±11.2 years. Proportion of DM patients with PAD was found to be 65%. Right and left limb were equally involved with dorsalis pedis artery being the most commonly involved arterial segment. Only the presence of leg ulcer was found to have statistically significant association with PAD (P=0.046). DM patients with leg ulcer have 3.53 times odds of having PAD compared with those with no leg ulcer.

Conclusion: The results of this study highlight the high burden of PAD among the DM patients. Most of the DM patients has early stage of PAD with dorsalis pedis artery being the most commonly affected arterial segment of the lower limb. Only the presence of leg ulcer had statistically significant association with lower limb peripheral artery disease after adjusting for confounders.

Recommendation: Clinicians should increase utilization of duplex ultrasound, for targeted screening as this study has revealed that it can pick early subtle vascular changes signifying PAD aiding in early diagnosis hence preventing amputation. A large multicenter prospective study should be undertaken so that the results can be generalized to the general population.

28. Performance of Coronary Computed Tomography Angiography in Diagnosing Coronary Artery Disease: Experiences from Tanzania

Authors: Catherine Kavishe, Lulu Fundikira, Fredrick Lyimo, Pedro Pallangyo

Affiliation: Muhimbili university of health and allied sciences

Background: Coronary artery disease (CAD) affects the arteries supplying the heart. A large proportion of CAD burden falls in low- and middle-income countries accounting for 7 million deaths and 129 DALYs annually. Invasive coronary angiography (ICA) remains the gold standard in diagnosing CAD, however, it has the potential for major complications, high cost, and radiation exposure. CT coronary angiography (CCTA) can be a non-invasive and cheaper alternative method of diagnosing CAD.

Objective: To determine the diagnostic performance of CCTA among patients suspected of coronary artery disease in our setting.

Methodology: A cross-sectional study was done on 170 patients suspected of CAD who underwent both ICA and CCTA at Muhimbili National Hospital from 2021 to 2024. Data on demographics, risk factors and radiological patterns were collected and analysis was conducted using SPSS version 24. Descriptive statistics, odds ratio, sensitivity, and specificity were calculated and the area

under the curve (AUC) was determined. A statistical significance was determined by a p-value ≤ 0.05.

Results: The mean age of 64.6 years and the majority 96(56.1%) of patients were male. Hypertension, diabetes, and obesity were recorded in 167(98.2%), 133(78.2%), and 54(31.8%) respectively. We recorded normal findings in 100(58%) and 115(65.7%) of ICA and CCTA respectively. CCTA showed a sensitivity of 62.9% and specificity of 89% with AUC of 0.76; and positive predictive value (PPV) of 80% and a negative predictive value (NPV) of 77.4% in the diagnosis of CAD.

Conclusion: Patients with CAD are predominantly males and elderly. Hypertension, diabetes mellitus and obesity are important underlying risk factors. CCTA has a fairly good diagnostic performance when compared with ICA.

Recommendation: In our setting with limited access to ICA, CCTA may be used as gateway to select patients who will benefit from ICA. In this way, ICA can be reserved for patients who have shown advanced disease that necessitates ICA, leading to therapy.

29. Client Satisfaction with Critical Care Service and Associated Factors at Muhimbili Orthopaedic Institute (MOI), Tanzania

Authors: **Mboni Chilale**, Frederic Mbanga, Edwin Lugazia

Affiliation: Muhimbili University of Health and Allied Science (MUHAS)

Background: Patients in the Intensive Care Unit (ICU) are often unable to make decisions for themselves. As a result, their family members step in to make critical decisions and assess the quality of treatment. Providing standard care in this context involves prioritizing patient satisfaction and treating the patient as a whole. Significantly, the quality as acknowledged by patients and their families is the constant focus.

Objective: To assess the level of client satisfaction with critical care service and associated factors at Muhimbili Orthopaedic Institute, Tanzania

Methodology: This was analytical cross-sectional study; consecutive sampling technique was used to enroll study participants. Family members of patients who were admitted to the ICU for more than 48 hours were included in the study. Families were approached with a validated FS24-ICU Family Satisfaction Questionnaire. One hundred and forty-five questionnaires were collected over 6 months from June 2023 to December 2023. STATA version 15.1 was used to analyze the collected data.

Results: Of those who expressed an overall level of satisfaction with critical care services, 125 (86.2%) were satisfied, whereas 20 (13.8%) were not. The items with the greatest scores were the ones about pain management (89%), honest

information to family members (89%), and treating the patient with politeness, respect, and compassion (88.9%). The item that received the lowest score was the ICU waiting room atmosphere (77%). Age, Sex, Previous ICU experience, and living with the patient reached statistically significant (p<0.05)

Conclusion: The majority of the research participants expressed high levels of satisfaction with the medical care and decision-making sub-scales for their critically ill relatives in the intensive care unit. These results are highly comparable to other developing countries. Effective communication among ICU healthcare workers and patients' families and patients for quality improvement initiatives.

Recommendation: Potential for improving the quality of information provided to family members by the intensive care staff and the provision of the ICU waiting area. Family members need to be included and safeguarded in an ICU through work that is rooted in knowledge, norms, and culture. Furthermore, the findings may add comprehensive knowledge to critical care staff which may enhance competence.

SUBTHEME: Social Determinants for Health and Cross-cutting issues

30. Exploring Social Determinants in One Health and their Implications for Public Health and Policy Development

Authors: Bundala Faustine Mipawa

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The background of this study delves into understanding the intricate interplay between social determinants and one health initiatives. It examines how various societal factors impact health outcomes and the environment, emphasizing the need for a comprehensive approach. The aim is to highlight the significance of addressing social determinants in one health frameworks to inform public health strategies and policy development effectively.

Objective: To analyse the impacts of social determinants within one health and inform policy development for improved public health outcomes.

Methodology: The study employed a mixed-methods approach, combining qualitative interviews and quantitative surveys. Participants included community members, healthcare professionals, and policymakers. Qualitative data was analysed thematically, while quantitative data underwent statistical analysis. This comprehensive methodology allowed for a nuanced exploration of social determinants in one health and informed evidence-based policy development.

Results: The study identified key social determinants impacting one health, including socioeconomic status, education, and access to healthcare. Findings revealed disparities

in health outcomes across demographic groups. Additionally, the research highlighted the interconnectedness of human, animal, and environmental health. These results underscored the need for integrated policies addressing social determinants to promote public health equity and enhance one health initiatives.

Conclusion: Addressing social determinants is vital for effective one health strategies and policy development. Interventions targeting socioeconomic disparities, education, and healthcare access can enhance public health outcomes and promote equity. Integrated approaches are crucial for addressing complex health challenges at the intersection of human, animal, and environmental health.

Recommendation: The study recommended implementation of multi-sectoral collaborations to address social determinants of health comprehensively. Policy makers should prioritize investments in education, income security, and healthcare infrastructure to promote equity and improve health outcomes. Additionally, fostering community engagement and participatory approaches can enhance the effectiveness of interventions aimed at mitigating social disparities and promoting one health principles.

31. Forty-Eight Hours In-Hospital Mortality and its Predictors Among Geriatric Medical Patients Presenting to Emergency Medicine

Authors: **Bahati James Msige**, Said Kilindimo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Geriatric patients represent a growing proportion of the presentations to the EMD. Given the frequently complex nature of their underlying medical illnesses, this population presents particular challenges to clinicians. To improve outcomes, early identification, and timely, efficient resuscitation are necessary. These predictors of 48-hour in-hospital mortality for those attending EMD must be considered.

Objective: To determine the 48-hour in-hospital mortality and its predictors among geriatric medical patients presenting to EMD

Methodology: A prospective, bicentric open cohort observational study involving geriatric individuals aged 60 years and older in resuscitation rooms between October and December 2023. The primary outcome was in-hospital mortality at 48 hours, with secondary outcomes including EMD mortality and EMD-LOS.

Results: During the study period, 13,957 patients presented to EMD, with 17.7% being geriatrics. Of these, 17.6% were emergency cases. The median age was 70, with 59.4% being male. In-hospital mortality was 9.2% at 48 hours, with 2.1% deaths at EMD. EMDLOS was 4 hours. Independent predictors of mortality included altered mental status, difficulty breathing, low SPO2, and electrolyte imbalance.The mortality rate in geriatric medical patients who presented to EMD and resuscitation rooms as emergency cases was 9.2%, with factors like altered mental status, breathing difficulties, low oxygen saturation, and electrolyte imbalances being independent predictors of mortality.

Recommendation: Therefore, healthcare providers should consider risk assessment and predicted prognosis in care planning for geriatric medical patients at EMD

32. Assessing the Diagnostic Accuracy of Artificial Intelligence in Detecting Cervical Pre-Cancer from Pap Smear Images

Author: Sang'udi SE, Muhunzi DJ, Mzurikwao D, Ngowi JE, Mnango LF, Mlole A, Mboka J, Sunguya BF.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The global burden of cervical cancer, with a notable prevalence in regions like Tanzania. With the burden of cervical cancer projected to rise to 700,000 cases and 400,000 deaths by 2030, the vast majority of this increase being in low and middle-income countries. This highlights the critical need for timely and accurate diagnosis. The scarcity of pathologists in such areas underscores the importance of developing automated tools for diagnosis.

Objective: To assess the performance metrics of AI models in cervical precancerous lesions by using PAP smear cytological images of

Methodology: This study investigated the performance of advanced artificial intelligence (AI) algorithms for screening cervical cancer using Pap smear cytological slides from the Centre for Recognition and Inspection of Cells CRIC dataset. Deep learning models were trained on images of both cervical cancer and normal cervix cells, with the evaluation of model performance focusing on specificity, sensitivity, and accuracy.

Results: Among the evaluated convolutional neural network (CNN) architectures—EfficientNetB7, MobileNet, ResNet50, ResNet152, and InceptionNet-V3—EfficientNetB7 emerged as the top performer, demonstrating impressive accuracy, sensitivity, and specificity metrics (accuracy: 0.95, sensitivity: 0.84, specificity: 0.97). In contrast, InceptionNet-V3 showed the lowest performance across similar metrics (accuracy: 0.78, sensitivity: 0.35, specificity: 0.87). The study also highlighted the challenges in distinguishing between specific cell classes, particularly between ASC-US and LSIL, due to the subtle nuances of cytomorphological criteria.

Conclusion: The findings suggest that while AI can significantly aid in cervical cancer screening, the complexity of cell image classification demands further exploration, possibly incorporating whole smear analysis or additional contextual information to improve accuracy. Despite the observed classification challenges, such as between ASC-US and LSIL classes, the potential for AI in supporting clinical decision-making in cervical cancer management is evident.

Recommendation: We recommend gathering and training AI models with data from local environments and incorporating additional contextual details. This strategy will improve the models' accuracy and applicability, making them more effective for cervical cancer screening and diagnosis in regions that need it most.

33. Impact of Virtual Reality Rehabilitation on Motor Function in Individuals with Spina Bifida in Tanzania

Authors: Samson Peter Mvandal, Paschal mgawe

Affiliation: Pim Foundation & Medics, Dar es salaam, Tanzania

Background: Spina bifida, a congenital neural tube defect, presents a complex set of challenges, particularly in motor function, for individuals across the lifespan. The condition is characterized by incomplete closure of the spinal column during embryonic development, leading to a spectrum of motor impairments such as gait abnormalities, muscle weakness, and compromised functional mobility. The prevalence of spina bifida remains a global concern, affecting approximately 1 in 1000 live births.

Objective: To investigates the potential impact of virtual reality (VR) rehabilitation on motor function in individuals with spina bifida in Tanzania

Methodology: A randomized controlled trial involving 120 participants is designed, with one group undergoing traditional rehabilitation and another engaging in a six-week VR rehabilitation program. Motor function assessments, including gait analysis, muscle strength measurements, and functional mobility tests, were conducted at baseline, midpoint, and post-intervention.

Results: Study findings shows that VR rehabilitation offer unique benefits, leading to improvements in motor function compared to traditional method of rehabilitation.

Conclusion: The study provided valuable insights into motor function improvement, subjective experiences, long-term outcomes, cost considerations, and participant feedback. The findings contribute to the evolving field of neurorehabilitation and have important implications for optimizing care strategies for individuals with spina bifida.

Recommendation: Integration of VR Technology from traditional method offers experiences among participants, also the healthcare providers and rehabilitation centers are encouraged to consider the integration of VR technology into spina bifida rehabilitation programs. Future studies should explore diverse VR applications and tailor interventions to address specific motor challenge associated with spina bifida.

34. Bedside Rationing in Intensive Care Unit: The Experience of Healthcare Workers at Muhimbili National Hospital

Authors: Rehema Chande-Mallya, Bajile Masolwa Masalu, Pancras Godwin

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Rationing is gradually becoming a common practice in healthcare delivery. However, its practice and moral implications in limited resource settings must be documented. Therefore, this study aimed to explore the experience of Intensive Care Unit (ICU) healthcare workers (HCW) in bedside rationing.

Objective: To explore the experience of healthcare workers (HCWs) concerning bedside rationing at Muhimbili National Hospital ICUs.

Methodology: The study applied a phenomenology qualitative design to explore the HCW's experience with bedside rationing in the ICU. The study was conducted at MNH in Dar Es Salaam, Tanzania. The purposively sampling of a minimum of fifteen (15) healthcare workers participated in this study (doctors and nurses), and the saturation point was used to determine the actual sample size.

Results: This study uncovers the ongoing challenge in the ICU, particularly the struggle for adequate resources. HCWs experience limited resources and employ various methods to ration them, such as prioritising the young, assisting the most vulnerable, and considering patients with a high chance of survival. The study also reveals the ethical dilemmas arising from limited resources, including injustice, discrimination, and moral distress.

Conclusion: While bedside rationing is unavoidable in low-income countries, it should not be used as an excuse to neglect to prepare a robust budget and to provide necessary requirements. This is especially crucial in potential areas such as the ICU, where proactive measures can significantly improve patient care.

Recommendation: This is especially crucial in potential areas such as the ICU, where proactive measures can significantly improve patient care.

SUBTHEME: Communicable Diseases and Antimicrobial Resistance

35. Magnetic Resonance Imaging Findings Among Patients with Intracranial Tuberculosis at Muhimbili National Hospital

Authors: **Jackline Ngegani Mpina**, Lulu Fundikira, Revelian Iramu, Enock Lugaila

Affiliation: Muhimbili University of health and allied sciences

Background: Intracranial tuberculosis is a severe global health issue, comprising one-tenth of all tuberculosis cases with a mortality rate five times higher than other forms. Tanzania ranks among the top 30 countries with high tuberculosis rates, with 37 deaths per 100,000. Despite this, there's a lack of published studies on the CNS findings of intracranial tuberculosis, potentially delaying diagnosis in local contexts.

Objective: To determine magnetic resonance imaging findings among patients with intracranial tuberculosis at Muhimbili National Hospital

Methodology: This retrospective descriptive study occurred at MNH's Radiology and Imaging department. Convenient sampling involved 107 patients who had brain MRIs from June 2017 to June 2022. A semi-structured questionnaire gathered data from patient files, CSF lab results, and MRI findings. Demographics, risk factors, symptoms, and lab results were analyzed via SPSS version 20, results were presented descriptively.

Results: Participants were 0 to 79 years old, and 52.3% were female, with the highest incidence in the 40-49 age group (25.2%). HIV was the primary risk factor (67.3%), significantly associated with intracranial TB (p=0.033). HIV-positive patients faced a higher risk (OR=0.295, 95% CI=0.096-0.905). Predominant symptoms were seizures (28%), hemiplegia (16.8%), and headache (15.0%). Lesions were mainly supratentorial (54.2%), with smooth margins (55.1%), hypo-intensity on T1WI (58.9%) and hyperintensity on T2WI and FLAIR (61.7%). DWI/ADC showed no restrictions (62.6%).

Conclusion: Our research discovered a nearly even occurrence of intracranial tuberculosis in both genders, with a median age of 40. Common clinical symptoms included seizures, hemiplegia, and headaches. The majority of lesions were found in the brain's supratentorial areas, exhibiting ring enhancement on T1-gadolinium imaging.

Recommendation: Broadening and promoting the use of cross-sectional imaging methods is advised to improve precise diagnosis, especially in intracranial TB cases where traditional CSF, microbiology, and immunological approaches may delay treatment and lead to unfavorable results. MRI utilization has shown superior effectiveness in both diagnosing and managing the disease.

36. Multiple False-Negative Rapid HIV Tests in Patient with Epidemic Kaposi Sarcoma in Tanzania: Case Report

Authors: **Pendo Ibrahim**, Sumaiya Haddadi, Zainab Illonga, Kija Luhuti, Erick Magorosa, Ambele Mawazo, Lorna kasyanju, Zainab Mkinde, Advera Ngaiza, Agricola Joachim

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Despite global efforts to control and eradicate the Human Immunodeficiency virus (HIV), 20- 30% of individuals present for care with advanced HIV disease. HIV misdiagnosis in developing countries is highly due to suboptimal testing strategies and algorithms. False-negative HIV tests, where HIV-infected individuals receive negative test results, delay treatment initiation and increase transmission risks. This case report highlights dilemmas in diagnosing HIV in patients with Kaposi sarcoma, an AIDS-defining illness.

Objective: To highlight diagnostic dilemmas in diagnosing HIV disease in patients with multiple false-negative rapid HIV tests.

Case: A 37-year-old Tanzanian woman presented at Muhimbili National Hospital (MNH) with respiratory symptoms, weight loss, and multiple purplish skin lesions suspicious of Kaposi sarcoma. Despite multiple negative rapid HIV tests at different healthcare and research facilities, including MNH, she tested positive for HIV using ELISA with a viral load of 747,000 copies/mL. A skin biopsy confirmed Kaposi sarcoma. Notwithstanding the initiation of antiretroviral therapy, she faced financial barriers to starting chemotherapy, and eventually, her condition worsened, and she died.

Conclusion: The delayed diagnosis of HIV disease had complicated this patient's inability to receive chemotherapy for Kaposi sarcoma due to financial constraints. Timely diagnosis and initiation of ART could have prevented her death. This case highlights a limitation of rapid HIV tests, and emphasizes the importance of considering alternative testing methods for patients with AIDS-defining illnesses, nevertheless HIV rapid test.

Recommendation: Global and National HIV algorithms and guidelines should incorporate pathways that account for false negative results, especially in resource-limited countries, to reduce advanced HIV disease incidence and mortality and prevent HIV transmission.

37. Prevalence of Sepsis, Outcomes and Associated Factors Among Critically Ill Patients at Muhimbili National Hospital.

Authors: **Atala Abdallah**, Edwin Lugazia, Raymond Oyugi

Affiliation: Muhimbili University of Health and Allied Sciences

Background: It is estimated there are 49 million cases of sepsis and 20% deaths each year globally with high mortality in low- and middle-income countries. Despite the development of several strategies to alleviate this burden, sepsis has remained the leading cause of death in intensive care units and, it is responsible for approximately 6 million deaths worldwide each year.

Objective: The study aimed to determine the prevalence of sepsis, outcomes, and associated factors among critically ill patients at Muhimbili National Hospital.

Methodology: A cross-sectional study was conducted at Muhimbili National Hospital's Adult Intensive Care Unit, involving 248 patients. Data were collected for six-month period. Statistical analysis was conducted using Statistical Package for Social Sciences (version 26). Prevalence and outcomes determined by Proportion and a Chi-square test with a significance level of <0.05 were used to establish an association between patient outcomes and associated factors.

Results: The prevalence of sepsis was 41.5% (103/248). Among patients who developed sepsis, 55% of patients died during treatment. Early initiation of broad-spectrum antibiotics (p=<0.001) was significantly associated with good outcomes. However, a higher SOFA score (p=<0.001), more than one source of infection (p=0.027), patient with CKD (p=0.008), multiple comorbid conditions (p=0.023) and developing more than one organ dysfunction during treatment (p=0.004) were significantly associated with poor outcome. The study also found a lack of training, knowledge, and adherence to guidelines.

Conclusion: This study showed that sepsis is still prevalent among patients admitted to the ICU and is associated with poor outcomes. It also highlights the importance of early sepsis recognition and management in alignment with the Surviving Sepsis Guideline, which is crucial in improving patient outcomes.

Challenges such as limited access to resources and insufficient training contributed to poor patient outcomes.

Recommendation: We recommend adopting the Surviving Sepsis Guideline in the management of sepsis, conducting sepsis screening for all ICU patients, providing comprehensive training for healthcare workers, and ensuring essential medications and equipment availability to improve patient outcomes.

38. Clinical application of whole genome sequencing the management of extensively drug-resistant tuberculosis: A Case Report

Authors: **Bugwesa Z. Katale**, Sylvia Rofael, Linzy Elton, Erasto V. Mbugi, Stella G. Mpagama, Daphne Mtunga, Maryjesca G. Mafie, Peter M. Mbelele, Charlotte Williams, Happyness C. Mvungi, Rachel Williams, Gulinja A. Saku, Joanitha A. Ruta, Timothy D. McHugh, Mecky I. Matee

Affiliation: Tanzania Commission for Science and Technology

Background: Whole genome sequencing (WGS) based prediction of drug-resistance in Mycobacterium tuberculosis has the potential to guide clinical decisions in the design of optimal treatment regimens.

Objective: This study aimed at understanding the microevolution of the XDR-TB infection and evolutionary changes of *M. tuberculosis* in eight isolates

Methodology: We utilized WGS to investigate drug-resistant mutations in a 32-year-old Tanzanian male admitted to Kibong'oto Infectious Diseases Hospital with a history of interrupted multidrug resistance tuberculosis treatments over three years. Before admission, he received various all-oral bedaquiline-based multidrug resistance tuberculosis treatment regimens with unfavorable outcomes.

Results: Drug susceptibility testing of serial *M. tuberculosis* isolates using Mycobacterium Growth Incubator Tubes culture and WGS revealed resistance to first-line anti-TB drugs, bedaquiline, and fluoroquinolones but susceptibility to linezolid, clofazimine, and delamanid. WGS on serial cultured isolates identified the Beijing (Lineage 2.2.2) strain resistance against bedaquiline, with mutations in the mmpR5 gene (Rv0678. The study also revealed the emergence of two distinct subpopulations of the bedaquline resistance tuberculosis strain with Asp47f and Glu49fs frameshift mutations in mmpR5 gene.

Conclusion: We propose the incorporation of WGS in the diagnostic framework for optimal management of drug resistance and extensively drug resistance tuberculosis patients.

Recommendation: The study recommends WGS for detection and guidance for personalized treatment in patients to enable more appropriate and accurate choice of treatment regimen.

39. The Reasons and consequences of trial participation self-disclosure among the volunteers in a Phase IIb

Authors: **Joel Seme Ambikile**, Edith A.M Tarimo, Masunga K. Iseselo, Gift Lukumay, Patricia Munseri, Muhammad Bakari, Eligius Lyamuya, Said Aboud

Background: Globally, HIV vaccine clinical trials are conducted in the quest for an effective preventive vaccine. The conduct of these trials significantly relies on the participation of volunteers. However, volunteers may decide whether to disclose their trial participation or not because of uncertainties from other peoples' reactions.

Objective: To explore the experiences of disclosure and non-disclosure of participation in Phase IIb HIV Vaccine Trial among volunteers in Dar es Salaam

Methodology: This was a descriptive qualitative study design. Fifteen in-depth interviews and four focus group discussions were conducted among volunteers who were participating in the HIV vaccine trial. Data analysis was done manually using the Thematic analysis approach.

Results: Three themes emerged: (1) Reasons for disclosing are grouped into four categories: seeking support to meet trial requirements, adherence to the study's requirement to involve the family, trustful relationships, and compelled disclosure. (2) Reasons for nondisclosure were divided into two categories: perceived lack of understanding about trial participation and concerns about inadequate support. (3) Consequences of disclosure encompassed three categories: uncertainty about the vaccine's side effects, the perception of volunteers being infected with HIV, and disapproval of the vaccine trial.

Conclusion: The volunteers' act of disclosing their participation in an HIV vaccine trial is crucial for obtaining support from other people and fulfilling the study requirements. Lack of knowledge and perceived inadequate support may influence the disclosure of participation in the trial.

Recommendation: It is important to provide the volunteers with adequate knowledge to make informed choices regarding the disclosure of their participation in HIV vaccine trials. Also, community education in the vicinity of HIV vaccine trials is essential.

POSTER PRESENTATION

1. Acute Myeloid Leukemia in Tanzania: Clinical Features, Laboratory Characteristics and Survival Outcomes

Authors: **Michelle Munroe**, Clara Chamba, Mbonea Yonazi, Samira Mahfudh

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Acute myeloid leukemia is a rapidly progressing cancer affecting bone marrow and blood. It involves abnormal blast cell proliferation, leading to bone marrow failure. Treatment primarily involves chemotherapy, with bone marrow transplant for higher-risk cases. While many patients achieve remission with intensive chemotherapy, relapse is common. Allogeneic stem cell transplant is vital for suitable AML patients due to its efficacy. Little is known about the survival in Tanzania.

Objective: To determine the clinical features, laboratory characteristics and survival outcomes of patients with Acute myeloid leukemia in Tanzania.

Methodology: A Retrospective cohort study including patients diagnosed with AML at MNH from January, 2018 to December,2023.

Results: "The prevalence of AML was 68% among acute leukemias at MNH, Majority of the patients were females, above 49 years old, uninsured and had de novo AML, Most of the patients presented with fever and symptoms of anemia, The median survival time was 81 days , The one year overall survival was 15.2%"

Conclusion: The mortality for patients diagnosed with Acute myeloid leukemia at the Muhimbili National Hospital is high

Recommendation: The initiation of standard of care for patients diagnosed with Acute myeloid leukemia at MNH

2. Pre-Operative Inflammatory Biomarkers as the Predictors of Postoperative Complications for Patients With Gastric Cancer

Authors: **Daudi Gervas Katwana**, Dr Ramadhan Hamis, Dr Ali Mwanga, Dr Maurice Mavura

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Gastric cancer is the fifth most prevalent cancer worldwide, with 1,080,800 cases and 770,000 deaths. In Tanzania, there are approximately 40 000 new cancer cases and 26 000 deaths. The mainstay treatment is gastrectomy with D2-lymph node dissection. Despite medical advances, 16.8% of patients develop postoperative complications globally. In different countries, the utility of pre-operative inflammatory biomarkers, among other predictors, has been investigated.

Objective: To determine the utility of the preoperative inflammatory biomarkers, among others, as predictors of postoperative complications for gastric cancer patients

Methodology: Across-sectional study, reviewing patient records from January 2013 to June 2023, diagnosed with gastric cancer who had surgery at MNH. Preoperative inflammatory markers from the full blood picture test, neutrophil-lymphocyte, platelet-lymphocyte, and platelet-neutrophil ratios as independent variables were extracted from the hospital's database, and in-hospital morbidity and mortality were analyzed using SPSS v25. Logistic regression was used to assess the association, and the predictive power was assessed using ROC

Results: In this study, about 127 patient records were included. Of these, 58.2% were male, and the median age was 57 years. 62.2% of patients had gastrectomy done. The median follow-up period was 9 days. in-hospital postoperative complications and mortality were 44.9% and 20.5%. The most common complications were postoperative anemia and electrolyte imbalances. The WBC revealed high predictive value among other markers. EBL, performance status and resection type showed statistical association with development of postoperative complications

Conclusion: This study revealed that a high WBC count, high intraoperative estimated blood loss, total gastrectomy, and poor performance status were strongly associated with a high chance of developing a postoperative complication. WBC can be useful in determining the patients that are likely to develop postoperative complications, with sensitivity of 72% and specificity of 44%, but has poor strength (AUC 0.64)

Recommendation: To enhance preoperative and postoperative care protocols in an attempt to counteract the possibility of developing postoperative complications, we should prioritize the precise documentation of our case notes in an attempt to have quality data.

3. Prevalence Of Suicidality and Associated Factors Among Clients Attending MAT Clinic at MNH Dar-Es-Salaam

Author: **Edward Bucheye,** Samuel Likindikoki, Saidi Kuganda, Tasiana Njau

Affiliation: Muhimbili National Hospital

Background: Suicide rates in low- and middle-income countries (LMICs) account for 75% of global suicides. Heroin use has been linked to high suicide rates. Preventing suicide deaths among clients undergoing methadone therapy for heroin addiction is crucial due to their proximity to treatment. However, studies investigating suicidality prevalence and associated factors in this population are limited. Understanding these factors is essential for effective intervention and suicide prevention in LMICs

Objective: To determine suicidality prevalence and associated factors among clients attending Medically Assisted Therapy (MAT) clinic, Muhimbili National Hospital, Dar-es-salaam

Methodology: A cross-sectional study was conducted at the MAT clinic at MNH from October to November 2023. Participants consented. Semi-structured questionnaire assessed socio-demographic and clinical information. Depression and anxiety symptoms were evaluated using the PHQ-4, ACEs using 10-item ACE-10 questionnaire. Suicidality using the WHO STEPS survey's suicide module. Data analysis included descriptive statistics, bivariate and multivariate logistic regression, p-value< 0.005 in MVLG were considered statistically significant, ethical clearance obtained from MUHAS-IRB

Results: In a study of 402 participants (95% males), the 12-month prevalence of suicidal ideation, planning, and attempts was 21.9%, 7.7%, and 3.7%, respectively. Lifetime suicide attempts were 6.0%. Risk factors associated with 12-month suicidality were found to be being single or divorced, experienced child maltreatment, polysubstance use, high HIV risk behavior, having anxiety, and depressive symptoms. Protective factors were lower education and living with parents/relatives.

Conclusion: The study reveals a significant prevalence of suicidal thoughts, planning, and attempts among methadone treatment clients, influenced by factors like marital status, living arrangements, education levels, substance use, and specific vulnerabilities such as HIV risk behavior, child maltreatment, anxiety, and depressive symptoms

Recommendation: Substance abuse treatment programs should include mental health evaluations for psychiatric disorders. Targeted support for those with child maltreatment histories and high-risk behaviors is vital. Implement suicide prevention strategies for high-risk groups and involve family members for support. Continued research on causal pathways and regional factors, resource allocation, and healthcare provider training are essential for reducing suicidality in methadone therapy

4. The extent and pattern of symptom relief after surgical castration for patients with advanced PCA

Authors: Charles John Nhungo, Amini Mitamo Alexandre, Joseph Martin Lori, Victor Patrick Sensa, Fransia Arda Mushi,Kimu Marko Njiku,Ally Hamis Mwanga, Charles A. Mkony.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Advanced prostate cancer leads to many symptoms, notably bone pain and lower urinary tract symptoms (LUTs); however, the degree and duration of pain relief, changes in LUTs severity and underlying factors that predict the extent of relief remain inadequately understood. Surgical castration has proven effective in relieving bone pain and urinary symptoms.

Objective: To determine the extent and pattern of symptom relief in advanced prostate cancer patients following surgical castration at Muhimbili National Hospital (MNH)

Methodology: A prospective cohort study was conducted at MNH for a period of 6 months, and patients were followed for 30 days. The international prostate symptoms score tool was used for LUTs assessment, and the pain rating scale was used for assessing bone pain symptoms before and after surgery. Cross-tabulation with chi-square tests as a measure of association was used to test differences in pain relief across different participant characteristics.

Results: The mean LUTs before surgical castration was 15.1 (95% CI 14.4 to 15.7), and 8.0 after surgical castration (mean score 8.0, 95% CI 7.4 to 8.6), representing a decrease of 7.1 (95% CI 6.4 to 7.7, p<0.001). The mean score for bone pain before surgical castration was 74.3 (95% CI 72.4 to 76.3), and that after surgical castration was 34.5 (95% CI 30.6 to 38.4). 52.9% of patients reported bone pain regression after surgery on 2nd week.

Conclusion: Surgical castration affects both bone pain control and lower urinary tract symptoms in patients with advanced prostate cancer. Additionally, more studies should be conducted to assess the duration of bone pain relief after surgical castration.

Recommendation: "1. Thorough bone pain evaluation for Elderly men is important: any elderly man with bone pain should be evaluated thoroughly for possibility of prostate cancer and PSA should be taken to rule out the origin. 2. surgical castration improves bone pain for patients with impending cord compression. 3.castration improves both urinary symptoms and bone pain"

5. Medication Assistance Treatment and ART services for persons who use drugs at Muhimbili Hospital Tanzania

Authors: **Mushi Dorothy**, Leonard Peter, Huh David, Rao Deepa, Kaaya Sylvia

Affiliation: Muhimbili University of Health and Allied Science, Tanzania. University of Washington

Background: People who use drugs are at an increased risk of acquiring and transmitting blood-borne diseases, including HIV, hepatitis B and C virus. To prevent and manage HIV among people who use drugs and are living with HIV (PWUDsLHIV), health services provide integrated Medication-Assisted and Antiretroviral Treatment Services (IMAT). These comprehensive packages of care include biological and psychosocial interventions. However, retention of PWUDsLHIV is suboptimal.

Objective: These formative needs assessment study collected information to inform the adaptation of a peer-led psychosocial intervention to improve clinical and

Methodology: We conducted in-depth interviews with 18 PWUDsLHIV to understand their experience with IMAT services, perceived benefits, and

challenges. Participants also proposed strategies to overcome reported difficulties. Data were analyzed using thematic analysis.

Results: PWUDs-LHIV perceived themselves as being physically and mentally stable. Perceived IMAT psychosocial benefits were helping the re-integrate with families. Challenges included maintaining adherence to clinic visits and ART medication use, community-enacted stigma, affording out-of-pocket healthcare expenses, and overburdened IMAT providers. The proposed strategies were building awareness about IMAT, enhancing client psychosocial care, and providing skills for improved income generation. Moreover, there is a need for IMAT-based interventions to address HIV and drug-related stigma and increase the number of healthcare providers.

Conclusion: This formative study reveals the benefits of individual and family support at IMAT and personal and IMAT-based individual, family, and structural challenges. Nevertheless, IMAT clients provided some strategies for overcoming some challenges.

Recommendation: Therefore, there is a call for a controlled study to evaluate proposed strategies to inform a comprehensive package of care for the IMAT. Moreover, these results will be used to inform the adaptation of peer-led psychosocial interventions for the PWUDs LHIV.

6. Secondary Analysis of Clinical and Nutritional Characteristics associated with bacterial diarrhea in children with diarrhea

Author: **Sarah Somji**, Per Ashorn, Karim Manji, Tahmeed Ahmed , Md Chisti, Usha Dhingra, Sunil Sazawal, Benson Singa, Judd L Walson, Patricia Pavlinac, Naor Bar-Zeev, Eric Houpt, Queen Dube, Karen Kotloff, Samba Sow, Mohammad Tahir Yousafzai, Farah Qamar, Rajiv Bahl, Ayesha De Costa, Jonathon Simon, Christopher R Sudfeld, Christopher P Duggan, ABCD Study Group

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Diarrhea causes under 500,000 deaths in children under 5 annually and methods to reduce this burden are informed by etiology studies. Bacterial pathogens are associated with childhood diarrhea. Antibiotics is recommended for diarrhea only if there is blood in stool or in suspected cases of cholera. However, acute watery diarrhea can have bacterial etiology. Not much research is done to see association between clinical and nutritional characteristics with diarrhea etiology.

Objective: To assess the association between nutritional and clinical characteristics and bacterial diarrhea in children <2 years with moderate-to-severe diarrhea (MSD).

Methodology: A secondary cross-sectional analysis of data at baseline collected from- AntiBiotics for Children with Diarrhoea Trial(NCT03130114). Children with MSD (defined as >3 loose stools within 24 hours and presenting with at least one of the following: some/severe dehydration, moderate acute malnutrition (MAM)

or severe stunting) enrolled in the ABCD trial and collected stool sample were included in this analysis and their clinical and nutritional characteristics were assessed with etiology.

Results: 6692 children with MSD had qPCR results available and 28% had likely bacterial diarrhea etiology. Compared to children with severe stunting, children with MAM (aOR) (95% CI) 1.56 (1.18 to 2.08)), some/severe dehydration (1.66 (1.25 to 2.22)) or both (2.21 (1.61 to 3.06)), had higher odds of likely bacterial diarrhea etiology. Clinical correlates including children with >six stools in 24 hours had higher odds of likely bacterial diarrhea (1.20 (1.05 to 1.36)) compared with those with fewer stools.

Conclusion: We note that MAM and dehydration, and high frequency of stools were associated with an increased odd of likely bacterial etiology, compared with those with severe stunting. These characteristics may be helpful in identifying children who can benefit from antibiotics during a diarrheal episode.

Recommendation: Presenting with MAM or dehydration or high stool frequency could be helpful in identifying children with MSD who might benefit from antibiotics. Future studies could examine other, more specific risk factors for diarrhea etiology, including micronutrient status, exposure to food and water sources, vaccine status and others.

7. Serum Lactate Dehydrogenase (LDH) and Gamma-Glutamyl Transferase (GGT) Correlate Optimally with the Nottingham Prognostic (NPI) for Breast Cancer

Authors: **Sylvery Mwesige**, Mungeni Misidai, Mabula Mchembe"

Affiliation: Muhimbili University of Health and Allied Sciences

Background: LDH and GGT have been identified as prognostic serum markers for breast cancer patients. The serum level of LDH has been found to increase due to increased anaerobic glycolysis in malignant neoplastic conditions. GGT has also been noted to increase in circulation, indicating the extent of oxidative stress within the body. Their levels are high in advanced breast cancer patients.

Objective: This study aimed to assess the correlation between LDH/GGT and the NPI among women with breast cancer

Methodology: A prospective cross-sectional study was conducted for 12 months. The data were collected by interviewing patients, patients' files and from the hospital's electronic database (Jeeva) and then completed the structured checklist. The mean, median and standard deviation were used to present numerical variables. Categorical variables are presented as frequencies or proportions. Correlations were assessed and analyzed by Spearman correlation coefficient and ROC was used to analyze the accuracy.

Results: The 104 patients were included.Spearman coefficient, r=0.66, a positive correlation between LDH and the NPI was found. Based on the NPI and TNM, LDH demonstrated significant predictive accuracy for the prognosis of breast cancer

patients, with AUCs of 0.85 and 0.87,respectively. A weak positive correlation between GGT and the NPI was observed with a Spearman coefficient, r=0.46, p<0.01. With AUCs of 0.73 and 0.76 on the ROC curve, GGT showed modest predictive accuracy for the prognosis of breast cancer patients

Conclusion: Pre-operative serum levels of LDH and GGT may serve as indicators for breast cancer prognosis in conjunction with other potential prognostic factors.

Recommendation: To validate these findings, multicentre studies with larger sample sizes must be performed. Based on the correlation that was established in our study, such markers can also be used during follow-up to assess response to treatment and disease recurrence/disease progression

8. Clinicopathological Characteristics and Outcomes of Thyroidectomy at Muhimbili National Hospital

Author: **Albert E lazaro**, Nashivai E. Kivuyo.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Thyroid disorders are increasingly becoming common worldwide with a significant portion of the burden falling in Low- and middle-income countries (LMIC). Despite the significant advancements, thyroidectomy is still not without complications owing to its technically demanding anatomical location of the gland. Through continuous follow-up and research on patient characteristics and surgical outcomes, thyroidectomy is increasingly becoming a safer treatment option.

Objective: This study aimd at assessing the clinical and pathological characteristics as well as surgical outcomes and their associated factors.

Methodology: A 5-year retrospective cohort study design was adopted. Independent variables included patient demography, clinical characteristics, pathological characteristics, intra-operative findings and the length of hospital stay. Data was also collected on the development of any post-operative complications as the dependent variable. Analysis was done via SPSS version 23 by using chi square test to establish statistically significant association (P<0.05) between patient characteristics and surgical outcomes observed and further multivariable Linear regression.

Results: A total of 405 thyroidectomy patients were included in the study. The mean age was 48 years. The median duration of symptoms was 36 months. Benign conditions had a higher prevalence (77%). Suspicion of malignancy was the most common [177(43.7%)] indication for surgery. Most had undergone lobectomy (27.2%) or Total thyroidectomy (24%). Post-operative Hypocalcemia was the most prevalent complication(13.3%). Overall complication rate was 15.3%. Extent of resection and symptom duration were statistically significant factors associated with post thyroidectomy complications. The average hospital stay was 5days.

Conclusion: Though considered a safe procedure, thyroidectomy is not without complications. Patients with a long-standing goiter and those requiring extensive resections (undergoing total thyroidectomy) are at a relatively higher risk of such complications. Preoperative preparations and precautions need to be employed to ensure a safe surgical intervention with a short hospital stay.

Recommendation: Proper preoperative evaluation of thyroid patients to identify at risk indivisuals for post thyroidectomy complications. Precaution to be taken with patients undergoing more radical resections (E.g. Total thyroidectomy) and those with longstanding goiters. This may take the form of ICU bed preparation, Adjunct airway devices preparation (Endotracheal tube, mechanical ventilator, tracheostomy tubes), early tracing of blood products and hemostatic agents.

9. Prevalence and factors associated with depression among cervical cancer patients at Ocean Road CancerI institute.

Authors: Alfateresia Mwasangama, Belinda Laizer, Loveness Kimaro, Innocent Kileo, Belinda Njiro, Amani Kikula, Samuel Likindikoki.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Chronic diseases including cervical cancer affect patients physically and mentally. Depression is a commonly reported mental disorder among patients with cervical cancer. Providing biological, social, and psychological support to patients helps in ensuring good adherence to medication and improves quality of life. Understanding the magnitude of depression and factors associated among patients with cervical cancer guides the measures to be taken to prevent and control depression

Objective: To determine the prevalence of depression and associated risk factors among cervical cancer patients at Ocean Road Cancer Institute (ORCI)

Methodology: A cross-sectional hospital-based study was conducted among 588 women with cervical cancer at ORCI in Dar es Salaam. Data was collected using a structured questionnaire and analysed using STATA version 17. The median and interquartile range were used to summarize continuous variables. Frequency and proportions were used to summarize categorical variables. 95% CI and a P value of < 0.05 was used to determine the statistical significance of the results.

Results: The median age and IQR were 54 and (48-60) respectively. The prevalence of depression was 77.71% and none of the patients reported to receive psychological care. Age, education level, perceived economic status, disease stage, pain, duration of diagnosis, and social support had an association with depression with P < 0.001. After multivariate analysis, not having formal education 3.51(1.36,9.11), reported low economic status 3.47(1.98,6.08), experiencing pain 2.64(1.43,4.89) and diagnosis duration of more than 5 years 0.16(0.04,0.67) had an association with depression

Conclusion: The prevalence of depression is high among cervical cancer patients and it is associated with a number of factors including pain, low economic status, shorter duration of the diagnosis and not having formal education. Patients do

not receive mental health care predisposing them to depression. This may affect the quality of life beyond the effect of the disease.

Recommendation: Mental health care should be incorporated in routine services especially among those with risk factors highlighted in the study. Similar studies should be conducted to include patients in other centers. Research on barriers to provision of mental health care services among patients with chronic diseases including cervical cancer are highly recommended.

10. Comparing The Outcome of TURP for Large and Medium-Sized Prostates At MNH: A Six-Month Study

Author: Boniface Nzowa, Charles Mkony, Fransia Mushi, Ally Mwanga

Affiliation: Muhimbili University of Health and Allied Sciences

Background: TURP has proved to be the gold standard in surgical management for severe symptoms due to BPH but is indicated in medium-sized prostate glands because its complications occur proportionally with the increasing size of the prostate. Therefore, open prostatectomy is generally indicated for large prostate glands. Nevertheless, surgeons' experience and patients' need for less invasive operations have made it possible for TURP to be performed on large prostate glands.

Objective: To compare the outcome of TURP in patients with large prostates and those with medium-size prostates at MNH.

Methodology: A six-month cross-sectional study was conducted at MNH. Consented participants were enrolled by convenience, having met criteria, and were observed closely for any complications of TURP until their individual hospital discharge. Data analysis assigned them to large and medium-size prostates for comparison. The chi-square test determined the significance of the proportions. The association between prostate size and outcome was determined using multivariate logistic regression with a P-value < 0.05.

Results: 132 men who underwent TURP were enrolled. The majority, 81.8%, were above sixty years of age. Of these men, 69.3% of participants had medium-size prostates, and 30.7% had large prostates. A significant proportion of participants from the large prostate size group (37.5%) developed minor TURP complications as compared to 14.1% from the medium-size prostate group (p = 0.003). Prostate size showed a strong association with TURP outcome in the multivariate analysis (aOR = 3.6, p = 0.006).

Conclusion: In both groups of patients, no major TURP complications were recorded. This study showed a higher risk of perioperative minor complications of TURP performed on patients with large prostate glands as compared to those with medium-size prostates at Muhimbili National Hospital.

Recommendation: Further studies on this subject should be conducted in our setup, such as to compare the outcome of TURP and open prostatectomy in

patients with exclusively large prostates. Surgeons should continue with the current practice until further studies provide another set of evidence.

11. Surgical outcomes in chronic venous insufficiency related to varicose veins at JKCI, Tanzania

Authors: **Christine Hyasint Paul**, Moses Byomuganyizi, Evarist Nyawawa

Affiliation: Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania.

Background: Chronic venous insufficiency (CVI) is a prevalent condition affecting the lower limbs, with a global adult population prevalence of 1% to 40%. Despite its impact on quality of life and economic status, there is limited reporting on CVI, highlighting a public health concern. While international studies discuss surgical management, our setting lacks open surgical facilities, with insufficient studies on surgical outcomes.

Objective: Study aimed to assess clinical profile and factors for surgical outcomes for CVI patients at JKCI.

Methodology: It employed a cross-sectional design, enrolling 97 CVI adults attending JKCI between January and December 2023. Sociodemographic and clinical data were extracted from patient records, focusing on age, residence, marital status, education, occupation, diabetes status, and history of Deep Venous Thrombosis (DVT). Surgical outcomes (good or poor) were the dependent variables, analyzed alongside sociodemographic characteristics, treatment type, and clinical parameters using Stata version 15.1.

Results: The majority of participants were male (60.8%) with a median age of 58 years. Many had primary education (47.4%), were self-employed (52.5%), and married (89.7%). The study found a 69.1% proportion of good surgical outcomes. Factors independently associated with favorable outcomes included the absence of active venous ulcers pre-operatively (aOR=2.01, 95% CI 1.10-4.70, p=0.020) and reduced post-operative edema (aOR=1.21, 95% CI 0.20-3.21, p=0.001).

Conclusion: The present study revealed a 69.1% success rate in surgical outcomes for CVI related to primary varicose veins. Factors like pre-operative ulcer absence and reduced post-operative edema were associated with positive outcomes.

Recommendation: These findings emphasize the importance of a multidisciplinary approach to CVI management and structured post-operative monitoring. Implementing comprehensive patient assessments and evidence-based treatment strategies, alongside national guidelines, could improve surgical outcomes for CVI patients in Tanzania.

12. Diagnostic accuracy of triphasic abdominal MDCT in the detection of esophageal varices.

Author: **Suzana Lukoo**, Balowa Musa, Prof. Ahmed Jusabani, and Gerard Mpemba

Affiliation: Muhimbili University of Health and Allied sciences.

Background: Esophagogastroduodenoscopy (OGD) is the gold standard for diagnosing and treating esophageal varices; however, there is limited availability of upper endoscopy in developing countries like Tanzania. In contrast, triphasic abdominal MDCT is widely available and can be used as an alternative non-invasive diagnostic modality for detecting esophageal varices, but its accuracy has not been evaluated.

Objective: Diagnostic accuracy of triphasic abdominal MDCT in detecting esophageal varices among UGIB patients by using OGD as a gold standard.

Methodology: A retrospective cross-sectional study of 200 UGIB patients who underwent both OGD and triphasic abdominal MDCT at Muhimbili National Hospital between January 2021 and May 2023 was conveniently selected and included in the study. A structured data collection tool was used, and then analysis was done with SPSS version 26. The presence of esophageal varices was evaluated on MDCT with endoscopy as the gold standard. Sensitivity, specificity, predictive value were determined.

Results: The triphasic abdominal MDCT demonstrated an area under the curve (AUC) of 0.975 (95%CI: 0.95-1, P=0.000) with a sensitivity of 97.2% (95%CI:94.9%-99.5%), specificity of 97.8% (95%CI:95.8%-99.8%), positive likelihood ratio (PLR) of 44.1 (95%CI:32.77-62.94), negative likelihood ratio (NLR) of 0.029 (95%CI:0.0018-0.043), positive predictive value (PPV) of 98.1% (95%CI:96.2%-100%), and negative predictive value (NPV) of 96.8% (95%CI:94.4%-99.2%). Extraluminal findings of triphasic abdominal MDCT included splenic collateral (51.5%), ascites (36%), and periportal fibrosis (32%).

Conclusion: The triphasic abdominal MDCT can be used as alternative modality for the diagnosis of esophageal varices and can be used as a screening test for esophageal varices especially in a resource limited setting. MDCT also permits evaluation of extra-luminal pathology that impacts management.

Recommendation: Triphasic abdominal MDCT due to its high sensitivity, specificity, and diagnostic accuracy and for the detection of esophageal varices and its wide availability in Tanzania, can be used as a screening tool for esophageal varices and other associated complications among patients with upper gastrointestinal bleeding.

13. Factors Associated with Diabetic Foot Ulcers Severity Among Patients Attended at Muhimbili National Hospital

Authors: **Rickson G. Bahati**, Ally H. Mwanga, Nashivai E. Kivuyo

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Diabetic foot ulcer is a severe and multifaceted complication that has resulted in prolonged hospital stays, burdened the healthcare system of the country, increased amputation rates and therefore reduced the quality of life for patients. Despite the adverse health effects of Diabetic foot ulcers, there have been limited studies on the severity of the disease in Tanzania. Consequently, there is a lack of evidence and knowledge about the factors that

Objective: To determine the factors that are associated with the severity of diabetic foot ulcers among patients at MNH

Methodology: An analytical cross-sectional study was conducted at MNH between August 2023 and March 2024. A total of 177 patients with diabetic foot ulcers, comprising attendees of diabetic clinics and inpatients, was selected through a purposeful sampling method. Data collection utilized a structured questionnaire via Google Forms. The gathered data were managed using SPSS software version 23. Univariate and multivariate ordinal logistic regression analysis was employed during analysis

Results: Total of 177 patients were recruited; 66.1% were male, with a median age of 60 years and an IQR of 52 to 68. 40.9% had no medical insurance coverage. Among the participants, 122 reported taking diabetic mellitus medication irregularly. Individuals over 60 years old have a 1.85 times higher risk of developing more severe diabetic foot ulcers, and those without health insurance have a 0.48 times higher risk and Individuals with irregular diabetes medication use had a 2.17-fold increased risk

Conclusion: The study investigated factors associated with severity of diabetic foot ulcers and found older age >60 years, lack of medical insurance coverage and irregular intake of diabetes medication were significantly associated with increased ulcer severity.

Recommendation: Further research is warranted to explore the underlying mechanisms driving the associations between socio-economic factors and the severity of diabetic foot ulcers. Specifically, larger-scale longitudinal studies with comprehensive data collection are needed to elucidate the role of clinical factors such as cigarette smoking, alcohol consumption, and BMI category in determining DFU severity. By addressing these gaps in knowledge, future research

14. Quality of Life in Burn Injury Survivors Using WHODAS-II at Muhimbili National Hospital.

Authors: **Kassim Bahsan**, Dr. Ramadhani H. Khamis, Dr. Frank Muhamba

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Burn injuries impact people of all ages worldwide. In 2019, 800,000 new burn cases and 100,000 new deaths were reported globally, primarily among children under 4 years old. Burn accidents in sub-Saharan Africa injure 18,000–30,000 youngsters annually. In Dar es Salaam, 26% of youngsters who needed medical attention had burns, most of which occurred at home while completing housework.

Objective: To assess the long-term quality of life among burn survivors using WHODAS-II at MNH.

Methodology: This cross-sectional observational study at MNH, conducted from September 2023 to March 2024, involved pediatric and adult burn survivors. Participants were treated at MNH and later followed up through clinic visits or interviews. Data from medical records were analyzed using SPSS version 23, employing proportions, frequency tables, means, medians, standard deviations, t-tests, and Spearman correlation coefficients to quantify and compare variables.

Results: This investigation evaluated 84 participants, the majority of whom were male (79.8%), utilizing the WHODAS-II. It was determined that a lower quality of life was associated with increased TBSA burns in all domains. Burns in both exposed and unexposed areas resulted in more severe consequences than burns in a single area. It is intriguing that a higher burn age was associated with a superior quality of life.

Conclusion: This study has shown that burn survivors are still facing challenges in different aspects of their lives. Though QoL improves with time as individuals become resilient and adapt to their looks, however the study has also shown that many victims experience social and psychological effects, particularly when there are more burn locations with larger surface areas.

Recommendation: This study underscores the obstacles that burn survivors encounter at MNH, and it encourages healthcare providers, legislators, and specialists to create targeted therapies such as physiotherapy and psychological evaluation. In order to enhance our comprehension of survivors' experiences and to motivate policymakers to implement effective rehabilitation and reintegration strategies, it is imperative that a comprehensive study be conducted throughout Tanzania.

15. Early outcome and associated factors of split-thickness skin grafting at Muhimbili National Hospital

Author: **Shedrack F Lusasi**, Moses Byomuganyizi, Edwin Mrema

Affiliation: Muhimbili University of Health and Allied Science

Background: Split thickness skin grafting is transferring of epidermis plus variable thickness of dermis from donor site to the recipient site. High incidence of skin graft failure has been reported in various literature. Factors contributing to skin graft failure include patient demographics, comorbidities, wound parameters, the first day of dressing and post-operation complications such as hematoma, seroma, and infection. There is a paucity of information regarding outcomes and associated factors.

Objective: Assessment of early outcome and associated factors of split thickness skin grafting at Muhimbili National Hospital.

Methodology: Prospective cohort study design, involve patient admitted in plastic surgery ward at Muhimbili National Hospital, Data was collected using swahili version questionare and analysis was done using SPSS version 23. Cummulative incidence of graft failure was calculated and risk ratio was used to measure association of graft and variable. Multivariety logistic regression was used to control potential confounders. Any variable showed association with p value <0.05 was considered as independent predictor.

Results: There were 100 study participants. Median age 25yrs, IQR 34yrs, male were 58%. Marital status 56% single, married 43%. 39% had secondary education,29% primary education, 28% no formal education. Comorbidities 4% had peripheral vascular disease,2% had HIV, 2% CKD,2%Diabetes Mellitus,1% heart failure and 1% hypertension.54% had normal weight ,35% overweight,6% underweight and 5% were obese. The cumulative incidence of graft failure was 12%. Factors associated with graft outcome were age, peripheral vascular disease and source of wounds. Trauma wounds was found protective for STSG failure.

Conclusion: Incidence of skin graft failure is still high (12%) among patient who underwent split thickness skin grafting at Muhimbili National Hospital. Trauma source of wound was found to be protective factor skin graft failure.

Recommendation: "1. To conduct multicentre study with longer duration of follow-up on the outcome of skin graft. 2. Future study should focus on specific age group e.g. Adults only and specific factor which can affect outcome of skin graft."

16. Evaluation of Ga-68 PSMA PET/CT in recurrent Prostate Cancer

Authors: Bright Sangiwa, Ellman Annare, Celeste Burger

Affiliation: Stellebosch University/Tygerberg Hospital

Background: Prostate cancer recurrence after definitive therapy for organ-confined disease often manifests as rising prostate-specific antigen (PSA) levels without clinically overt disease. Ga-68 PSMA PET/CT imaging plays a major role in the management of recurrent prostate cancer.

Objective: The purpose of this study was to assess the positivity rate of Ga-68 PSMA PET/CT scans in cases of prostate

Methodology: A retrospective analysis of 177 Ga-68 PSMA PET/CT scans of patients with biochemically proven disease recurrence was performed. The association of a positive PSMA PET with the PSA level and Gleason score were analyzed.

Results: 177 Ga-68 PSMA PET/CT scans were performed in 163 patients. 117 (66%) scans detected the site of disease recurrence. The scan was positive in 23/49 (PSA 0.2-0.99 ng/ml, 47%, p<0.0001) and 20/35 (PSA 1.00-1.99 ,57%, p<0.0005). When PSA values were categorized into PSA <2 ng/ml and PSA ≥2 ng/ml, detection

rates were 49% and 86% respectively (p <0.0001). The scans were positive in 65%, 62% and 68 of patients with Gleason score of 7 (p=0.745) respectively.

Conclusion: There was an increase in the detection rate with an increase in the PSA. Gleason score was not a predictor of a positive Ga-68 PSMA PET/CT scan. Ga-68 PSMA PET/CT should be prioritised in patients with biochemical recurrence with PSA levels >0.2 ng/ml.

Recommendation: Ga-68 PSMA PET/CT should be prioritised in patients with biochemical recurrence with PSA levels >0.2 ng/ml.

17. Clinical Profile and Mortality Among Children with Aplastic Anemia Admitted at MNH

Author: Nazareth M. Mbilinyi, Peter Swai, Lulu Chirande

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Aplastic anemia (AA) is a rare life-threating hematological disease, presenting with pancytopenia and hypocellularity in bone marrow. There is inconsistency in findings from studies regarding the clinical profile and factors associated with mortality among patients with AA. Studies show that outcomes can vary by age of onset, type of AA, severity at diagnosis, or treatment options provided however there is paucity of data locally.

Objective: To determine the clinical profile and factors associated with mortality among children with AA admitted to Muhimbili National Hospital, Tanzania

Methodology: An analytical retrospective cross-sectional study reviewed case records and electronic data. A total of 249 cases were identified by MeSH of the ICD-10 codes of AA; 82 met criteria. Descriptive analysis was summarized using proportions. Associations between categorical variables were determined with a chi-square test, and logistic regression identified independent factors associated with mortality. A p-value of <0.05 with a 95% CI was considered statistically significant.

Results: Of 82 participants, 62.2% were male, with a median age of 9 years, and 33% were from Dar es Salaam. Common presentations were bleeding history (61.0%) and pallor (96.3%). Severe anemia (60.9%), severe neutropenia (41.4%), and severe thrombocytopenia (75.6%) were prevalent. Treatment mainly involved IST (ATG + cyclosporine and Danazole) and supportive care (86%). Mortality was 48.7%, associated with low ANC and thrombocytopenia. No association was found with age or sex

Conclusion: Despite advances in treatment, mortality remains a significant concern, emphasizing the need for early detection, prompt initiation of therapy, and close monitoring of high-risk patients. Bleeding tendency is a common presentation, and it is associated with mortality. Identification of prognostic factors can aid in risk stratification and targeted interventions to improve survival rates in AA.

Recommendation: The ministry of health should enhance education and awareness at all levels of the health system about common presentations and early treatment of identified factors associated with mortality. A longitudinal study is to be conducted to follow up on patients in order to obtain a more precise clinical profile and associated factors.

18. Prevalence of Depression and Associated Factors Among Adolescents With Type One Diabetes Attending Diabetes Clinic

Authors: **Eveta Sabas Masawe**, Namala Mkopi, Rahim Karim Damji, Evelyne Assenga

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Children with type one diabetes (TIDM) are surviving to adulthood due to improved care and awareness. Compared to individuals without diabetes, those with diabetes are 2 to 3 times more likely to develop depression, especially among adolescents. Depressive symptoms during the adolescent period have been associated with suboptimal glycaemic control.

Objective: To determine the prevalence of depression and associated factors among adolescents with T1DM attending the diabetes clinics in Dar-es-salaam.

Methodology: A hospital-based cross-sectional study was conducted among adolescents aged 10-19 years with T1DM diabetes attending 4 public diabetes clinics in Dar es Salaam, from November 2023 to April 2024. A pre-tested structured questionnaire was used to obtain socio-demographic and clinical information about the participants and the caregivers, while the validated Patient Health Questionnaire-9 tools (Swahili version) modified for adolescents (PHQ-A) was used to assess depression symptoms

Results: A total of 186 children were recruited in the study. Majority (77.4%) were aged > 14 years, mean age of 15.41(±2.45) years, with a female predominance (58.1%). The prevalence of clinical depression was found to be 26.9%. A higher odd of having depression was noted amongst females (AOR = 2.86, 95% CI: 1.32-6.18, p = 0.008), those aged >14 years (p = 0.002) and those with <5 years duration since being diagnosed with diabetes (p= 0.001)

Conclusion: Depression is prevalent in adolescents with T1DM. Several factors including older age, female sex and shorter duration since diagnosis of diabetes were associated with depression.

Recommendation: Routine screening for depression and integration of mental health services in diabetes clinics will aid in early diagnosis and management of depression in adolescents with TIDM.

19. Incidence, Predictors and Outcomes of Blunt Cardic Injury Amongst Trauma Patients Presenting to Tertiary Hospital-Tanzania

Author: Janet Sugut, Muhanuzi Biita, Alphonce Simbila, Reuben Mutagaywa, Said Kilindimo, Ellen Weber

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Blunt Cardiac Injury (BCI) is variable due to non-specific presentation and lack of gold standard of diagnosing it. Standard of care includes ECG, troponin and ECHO but is often not done in LMIC due to lack of awareness and resources. Thus, incidence, outcome and predictors of BCI were not known and therefore whether we should use scarce resources to screen for this entity of patients among the trauma patients.

Objective: Establish incidence, predictors, 48hr and 7-day outcomes of BCI among polytrauma/isolated blunt chest trauma patients attending ED of Tertiary Hospital.

Methodology: A prospective observational cohort study with consecutive enrolment of Polytrauma/Isolated Blunt Chest trauma at MNH/MOI, was done between September 2023 to February 2024. Initial troponin was done if initial ECG was abnormal (this defined BCI) with follow up at 48hrs and 7 days post disposition. Logistic regression analysis for independent predictors of BCI with adjusted odds ratios was done. 95% confidence intervals with P value <0.05 being statistically significant

Results: Majority were male 65 (89%) with median age 31yrs [IQR: (22.5 – 39.5)], most had MTA 57 (78.1%). Incidence of BCI was 23.2% (95% CI: 18.6 % - 28.2%). One ECHO was done; cardiac monitoring was done in 30 (44.1%). Severe GCS aOR 9.16, 95%CI:3.01 – 27.88, p<0.001; lung contusion aOR 3.39, 95%CI: 1.38 – 8.35, p =0.008; moderate GCS aOR 2.90, 95%CI: 1.27 – 6.61, p =0.001 and Tachycardia aOR 2.45, 95%CI:1.35 – 4.44, p =0.003 were independent predictors.

Conclusion: The incidence of BCI among Polytrauma/ Isolated Blunt Chest trauma patients attending the ED of a Tertiary Hospital in Tanzania, is high with severe GCS, lung contusion, moderate GCS and tachycardia as independent predictors. BCI patients have more adverse events than BCI negative patients yet ECHO and cardiac monitoring are done sub optimally

Recommendation: "1. The screening of BCI should be adopted into the trauma algorithm of EDs in Tanzania as we have a high incidence among the trauma patients. Patients presenting polytrauma/isolated chest injuries with tachycardia, moderate and severe GCS and lung contusion should have priority screening for BCI. 2. BCI guidelines should include at least 24hour cardiac monitoring with ECHO once admitted."

20. Factors Influencing the Length of Hospital Stay Among Pediatrics Burn Injured Patients at Muhimbili National Hospital.

Authors: Hussein Cheyo, Mabula Mchembe, Nashivai Elia

Affiliation: Muhimbili University of Healthy and Allied Science

Background: Pediatric burn injuries pose complex challenges, with hospital stay length indicating care complexity. This study examines factors influencing hospitalization duration, such as burn severity, demographics, medical interventions, socio-economic conditions, and healthcare environment. Findings show shorter stays in developed countries due to advanced care, while developing nations face longer stays due to resource constraints. Understanding these factors aids in improving treatment strategies and patient outcomes globally.

Objective: Determining factors influencing the Length of hospital stay among pediatric burn Patients at MNH.

Methodology: A prospective cross-sectional study was conducted on pediatric burn patients (ages 2 months to 10 years) at discharge. Data were collected using a structured checklist and patient records, then analyzed with SPSS version 25. Quantitative data were examined for range, mean, median, and standard deviation. Chi-square tests compared qualitative data, while bivariate and multivariate logistic regression determined predictors of hospital stay length, with a significance level of $p<0.05$ guiding interpretations.

Results: The study involved 94 pediatric burn patients fitting the inclusion criteria, with a near-equal gender distribution (52.1% male, 47.9% female) and a mean age of 3.15 years. Most were toddlers (42.6%) and from referral hospitals (85.1%). The mean hospital stay was 31.37 days (SD 24.37 days). Multivariate analysis revealed that surgery (AOR=4.07, 95%CI: 1.76-6.38, P=0.001) and total burn surface area (TBSA) over 20% or between 10%-20% (AOR=3.936, P=0.015; AOR=3.373, P=0.008) independently predicted longer hospital stays.

Conclusion: Surgery and Total Burn Surface Area (TBSA) independently predict prolonged hospital stays, showing significant positive correlations. Factors such as burn degree, caloric intake, burn site, inpatient complications, and blood transfusions were significant in bivariate analysis. These factors should be considered when tailoring interventions, including early enteral feeding and comprehensive wound care protocols, to reduce length of stay (LOS).

Recommendation: Further research is needed to explore the mechanisms behind prolonged hospital stays (LOS) in pediatric burn patients and develop targeted interventions to reduce LOS and optimize resources. Incorporating rehabilitation services like occupational therapy, speech therapy, and psychotherapy could also help. Although electrolyte imbalance and hypoalbuminemia weren't statistically significant predictors of LOS, their clinical implications warrant further study.

21. Breast cancer molecular subtypes and associated risk factors among female patient with breast cancer

Authors: **Georvin Marco Haule**, Mabula Mchembe, Yona Ringo

Affiliation: MUHAS

Background: Breast cancer comprises a number of breast tumor subtypes that differ in molecular and cellular origin and have different treatments and

prognoses. Molecular subtypes, such as the triple negative subtype, have a poor prognosis and limited treatment options.This highlights the importance of identifying risk factors associated with a specific molecular subtype.

Objective: Determine the association between risk factors for breast cancer and breast cancer molecular subtypes among female patients with breast cancer.

Methodology: This was a hospital-based analytical cross-sectional study. Data was be collected through interviews the patient and histological information was gathered from medical records. A structured questionnaire with closed-ended questions was used as a data collection tool. Data were analyzed by using SPSS version 27, odds ratio was calculated, Multinomial logistic regression was used to control for confounding variables and to assess association; a p value <0.05 was considered significant.

Results: The study enrolled 168 female patients ,with the mean age at diagnosis of 49±11.2 years,78% were diagnose at the age above 40 years ,Molecular subtype had revealed association with modifiable risk factor for breast cancer Among patients with alcohol use (P= 0.04,AOR 0.22,95%CI 0.52-0.94) ,history of contraceptive use (P= 0.028,AOR 0.365, 95%CI 0.149-0.895) and normal body mass index (P= 0.031,AOR 3.66,95%CI 1.13-11.3), age at menarche above 12 years was associated with Triple negative subtypes (Pv 0.13,AOR 0.167, 95%CI ,0.41-0.69).

Conclusion: Modifiable risk factors and non-modifiable risk factors have shown associations with molecular subtypes such as alcohol use, history of contraceptive use, body mass index, and age at menarche. The majority of the other risk factors were not statistically significantly associated with breast cancer molecular subtypes.

Recommendation: From findings of this study, we recommend that all parameters based on histological results be reported, that will enhance the prognosis of disease tailored to the patient. Also, prevention should be tailored to address specific modifiable risk factors

22. Prevalence of Significant Anxiety Symptoms And Associated Factors Among People Living With Hiv/Aids In Moshi

Author: Frank Kiwango

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Human immunodeficiency virus is a retroviral infection that weakens the immune system. In Tanzania, 1.6 million people live with HIV and are more prone to mental health illnesses such as generalized anxiety disorder that may affect clinical outcomes. While its risk factors in PLWHA have been identified elsewhere, there is limited understanding of the prevalence of generalized anxiety and its associated risk factors among adult PLWHA in the Tanzanian context.

Objective: To determine the prevalence of significant generalized anxiety symptoms and associated risk factors among adult PLWHA attending selected HIV clinics

Methodology: The study used a hospital-based cross-sectional quantitative analytical design at CTCs in Moshi Municipality, in the Kilimanjaro region. Four out of nineteen CTCs were randomly selected using multistage cluster sampling. A systematic random sampling approach enrolled 593 adult PLWHA. We assessed clinically significant generalized anxiety symptoms using a GAD-7 screener. Redcap software was used to enter the data and SPSS version 25 was used to analyze the data.

Results: Receiving care at CTCs located in lower health facility levels and using adaptive coping mechanisms decreased the likelihood of having significant anxiety symptoms while being widowed, using substances, screening positive for probable depression, or high anxiety sensitivity, higher social support, and using maladaptive coping mechanisms increased the likelihood of having significant generalized anxiety symptoms.

Conclusion: Significant generalized anxiety symptoms were found to be common affecting one in twelve adult PLWHA. Association of anxiety sensitivity and coping strategies provide the potential for early recognition of persons at risk and interventions to prevent the development of GAD

Recommendation: Integrating routine anxiety screening in PLWHA and raising awareness among patients and their primary caregivers is recommended.

23. Magnitude, associated factors and experiences of depression among adolescents with sickle cell anemia in Dar-es-salaam.

Author: Linda Paul Athman

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Depression commonly arises among adolescents who have experienced long-standing psycho-social difficulties e.g. chronic illnesses. Globally, 1 in every 7 (14%) adolescents experience mental health conditions. Tanzania is among the top 5 countries in Sub-Saharan Africa with the highest prevalence of sickle cell anemia, estimated at 8000-11,000 births per year. With improved care and advanced treatment modalities, children are surviving into adolescence being faced with psycho-social and mental health burdens.

Objective: This study aimed to assess the magnitude of depression, associated factors, and lived experiences among adolescents with sickle cell anemia.

Methodology: A sequential dominance mixed method research study was conducted on adolescents aged 11-19 years who attended sickle cell clinics from October 2023 to March 2024. Socio-demographic and clinical profile data were collected using structured questionnaires. A validated Patient Health Questionnaire (PHQ-9) tool was used to screen for depression. Experiences of adolescents with depression were obtained through in-depth interviews.

Quantitative and qualitative data were summarized and analyzed accordingly.

Results: Among 326 adolescents enrolled, 216 (54 %) had depressive symptoms; of which, 167 (38.7 %) mild symptoms, 48 (14.7 %), moderate symptoms, 1 (0.3%) severe symptoms. Prevalence of clinical depression was 15%. Painful episodes were significantly associated with depression (aOR 2.49) (95% CI: 1.17 - 5.29, p = 0.01). Experiences of loneliness, isolation, lack of acceptance, adaptive and mal-adaptive coping strategies, and social challenges were observed. Their main sources of support were parents, friends and teachers.

Conclusion: Depression is common among adolescents with SCA in our setting. Painful episodes experienced by these adolescents were significantly associated with depression. Depressed adolescents commonly experienced feelings of loneliness and isolation. Social support, coping mechanisms, and acceptance play pivotal roles in their well-being. Understanding these experiences can inform targeted interventions and support systems for this vulnerable population

Recommendation: Screening for depression should be done regularly as adolescents attend clinics as part of comprehensive care. Integration of mental health services in sickle cell clinics with the availability of a psychologist or counselor. Prevention and adequate management of chronic pain or frequent pain. Interventions should focus on good coping strategies, acceptance of living with SCA and strengthening social support.

24. Prevalence and associated factors of risk of Obstructive Sleep Apnea among ESRD patients on mHD

Author: Dr Frank Peter (Resident),Dr Reuben Mutagaywa (Supervisor),Dr. Sibtain Moledina (Co-Supervisor)

Affiliation: MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

Background: Obstructive sleep apnea (OSA) is claimed to affect more than 50% of haemodialysis patients, with the reported prevalence being extremely variable. It is clearly known that OSA increases cardiovascular risk in ESRD patients and impairs the quality of life with cardiovascular mortality remaining the leading cause of deaths in these patients.

Objective: To determine the prevalence and associated factors of risk of OSA among ESRD patients on maintenance hemodialysis therapy at MNH

Methodology: A hospital-based cross-sectional study was conducted among patients with ESRD on maintenance HD between September 2023 and January 2024 at MNH dialysis centre. Patient's sociodemographic and clinical characteristics were recorded. Risk of OSA was defined using a combined STOP-Bang score and ESS score. Comparison was done using Chi-square and Robust Poisson regression was used to identify factors associated with OSA. A significance level was set at level of p value<0.05

Results: A total of 350 ESRD patients were enrolled in the study. The median age was 52.0 IQR (43-59) years with a male to female ratio of 2.4:1. The prevalence of OSA was 37.1%. A significantly high prevalence of OSA was seen among hypertensive respondents (42.4%) (p=0.001) and among diabetics (62.2%) (p<0.0001). Independent factors associated with OSA were hypertension (aPR(95%CI) =2.91, (2.09-4.06), p<0.0001) and diabetes (aPR(95%CI) =3.37 (2.68-4.23), p<0.0001).

Conclusion: In this study we found that risk of OSA is common in dialysis patients at MNH. Hypertension and diabetes were independently associated with risk of OSA among patients with ESRD on maintenance hemodialysis.

Recommendation: • Regular screening programs be designed and implemented for the early detection of this disorder, especially clinicians should therefore actively look for risk of OSA in hypertensive and diabetic patients on maintenance HD. • Larger cohort studies with polysomnographic exploration are needed to better describe the epidemiology of OSA among Tanzanian dialysis patients

25. Sigmoid Volvulus in Tanzania: Clinical Patterns, Treatments, Outcomes, and Mortality Predictors

Authors: **Meshack Brighton**, Mungeni Misidai, Ramadhani Khamisi, Charles Komba, Hassan Mwakimako, Daudi Katwana, Ally Mwanga

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Sigmoid volvulus causes benign intestinal obstruction that can lead to severe complications and death if untreated. This study addresses the limited understanding of sigmoid volvulus and its mortality predictors in Tanzania's modern healthcare setting.

Objective: To assess clinical patterns, treatment options, surgical outcomes, and mortality predictors of sigmoid volvulus at Muhimbili National Hospital.

Methodology: This single-center, analytical cross-sectional study retrospectively reviewed medical records from January 2018 to December 2022. Data were analyzed using SPSS version 27, with binary logistic regression to measure associations with mortality. Results were expressed as adjusted odds ratios and 95% confidence intervals, with statistical significance set at p values of less than 0.05.

Results: The study included 128 patients, with a median age of 42 years and a male-to-female ratio of 11.8:1. Classic symptoms were present in 93% of patients, and 7% showed signs of peritonitis. Plain abdominal x-ray was the primary radiological investigation (93.8%). All patients underwent surgery, with primary resection and anastomosis performed in 58.6% and colostomy in 41.4%. The median hospital stay was 5 days, with 88.3% discharged within 10 days postoperatively. Postoperative complications occurred in 19.5%, predominantly surgical site infections

Conclusion: Sigmoid volvulus predominantly affects middle-aged males. Postoperative complications and a 10.2% mortality rate highlight management challenges. Mortality predictors include comorbidities, higher ASA scores, and unfavorable bowel status.

Recommendation: To enhance the quality and reliability of future research on sigmoid volvulus, it is imperative to adopt prospective study designs, mitigating biases inherent in retrospective data collection and ensuring precise documentation of patient data to reduce the likelihood of coding errors in administrative databases. Study for patients with Surgical Site Infection among stoma patient is warranted.

26. Emicizumab prophylaxis: A new dawn for Haemophilia A patients in Tanzania

Authors: **Dr. Rebbecca W. Mwakichako**, Dr. Stella Rwezaura , Dr. Hussein Rajabu, Prof. Jonny Mahlangu

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Prophylaxis is the global standard of care to prevent bleeding, reduce complications and improve the quality of life among people living with Haemophilia. Tanzania launched the first prophylaxis program supported by the World Federation of Haemophilia (WFH), providing Emicizumab, a novel monoclonal antibody that cross-links FIXa and X leading to the generation of thrombin. While this has been available for the last 3 years, no study has evaluated its outcomes.

Objective: To assess adherence patterns, bleeding outcomes and the safety profile of Emicizumab prophylaxis among Haemophilia A(HA) patients attending MNH

Methodology: We conducted a cross-sectional analytical study on HA patients on Emicizumab prophylaxis where data was collected on their adherence patterns, self-reported adverse events and bleeding outcomes, including an annual bleeding rate (ABR) and resolution of target joints. Factors associated with breakthrough bleeding were evaluated through a robust poison method.

Results: In the 55 patients, majority (50%) had severe hemophilia disease. The median ABR for spontaneous bleeds was 8 before and 0 after 12 months of prophylaxis. Majority of the patients (78%) were adherent. Bleeding was observed in 63% of them but mostly (61%) traumatic. Of the 19 patients with target joints, 79% resolved. Only 5% had adverse events ,injection site reactions being the commonest. Over 18 years were most at risk of bleeding.

Conclusion: Emicizumab prophylaxis is both efficacious in reducing spontaneous bleeding and has a favorable safety profile. Though adherence was high, distance from the treatment centers and lack of consultation fees deterred some of the patients from accessing care. Roll out to other treatment centers should be considered in order to make it accessible.

Recommendation: While its use might be prioritized for those with severe disease and inhibitors, prophylaxis with clotting factor concentrates should be made available for the rest of our patients with the aim of not only improving bleeding outcomes but reducing disability caused by joint arthropathy in the future. Government support to establish a robust prophylaxis program is desperately needed.

27. Vital Signs Monitoring and Outcomes Among Patients Admitted with Stroke at Mloganzila Hospital in Tanzania

Authors: **Ipyana Kunjumu**, Patricia Munseri, Mohamed Mnacho

Affiliation: Muhimbili University of Health and Allied Sciences(MUHAS)

Background: Stroke is the second leading cause of death after cardiovascular diseases and a leading cause of severe disability. The first 72 hours after sustaining a stroke are critical for determining the patient's level of disability and early mortality. It is pivotal to detect early warning vital signs that can alert for patients' susceptibility to complications and death

Objective: To assess stroke outcomes among patients admitted at Mlonganzila Hospital in 6- hourly compared to 12-hourly intervals vital signs monitoring

Methodology: This cohort study enrolled stroke patients. Participants' demographic, and clinical characteristics were recorded in a structured questionnaire. Stroke severity and follow-up were assessed using the NIHSS and MRS. Participants were randomly assigned into either:12-hourly or 6-hourly vital signs monitoring for 72 hours. The outcomes were disability level or death within 30-days. STATA 12 was used for data analysis. Mortality at 30-days was presented by using Kaplan-Meier Curve

Results: The enrolled 360 participants had a mean age of 59.6± 14 years and males accounted for 53.6%. Hemorrhagic stroke occurred in 195(63.7%). At admission 156(51%) had moderate stroke. The overall fatality was 131(42.8%) and was 76(49.7%) and 55(32%) in the 12 hourly and 6 hourly vital signs monitoring respectively p=0.0217. Mortality risk was significantly higher participants whose vitals were monitored12-hourly vs the 6-hourly HR, 0.41;95% CI,(0.41-0.87). Overall independent predictor for death was age > 65years vs <65 years HR,1.51;95% CI,(1.02-2.24)

Conclusion: Regular monitoring of vital signs among patients admitted with stroke showed better outcome with significant reduction of the mortality rate as compared to standard vital signs monitoring. The risk of mortality increases with advanced age as compared to those with age<65 years

Recommendation: Establishment of well-equipped neurology units with monitors for each stroke patients to ensure regular monitoring of vital signs and timely interventions when needed. Additionally, increasing the numbers of trained health care personnel to ensure adequate care for stroke patients.

28. Assessment of malocclusion and orthodontic treatment need among school children in Kinondoni, Dar es salaam.

Author: Makala Yesaya

Affiliation: MUHAS

Background: Malocclusion is a widespread oral condition. Having well-arranged teeth play critical role both in psycho-social and oral function. Children self-esteem is highly affected by their dental appearance coupled with their own perception. Teeth arrangement ranges from perfect occlusion (ideal occlusion), normal occlusion (having tolerable/insignificant anomalies) going further up to handicapping malocclusion. Severity of malocclusion mainly determines the treatment need.

Objective: To determine severity of malocclusion and orthodontic treatment need among school children in Kinondoni district in Dar Es Salaam, Tanzania.

Methodology: This was a cross sectional study, conducted among 483 school children aged 12 -15 years attending public primary schools in Kinondoni district. A multistage random sampling technique was used to obtain the sample. Dental Aesthetic Index (DAI) was used in clinical assessment and data collected were analyzed using SPSS version 23.0 software in generating frequency distribution tables, Chi-square tests, and logistic regression analysis. P-value was set at $p<0.05$.

Results: This study involved 483 participants among which 275(56.9%) were females, 209 (43.3%) were 12 year olds and the rest were above 12 years old, 58.0% had parents/guardians with reliable source of income, and 247 (51.1%) are in class seven. Only 116 (24%) possess health insurance. The proportional of pupils with significant malocclusion was 56% which ranges from definitive to handicapping malocclusion. About 16%, 10%, and 30% of the subjects had mandatory, highly desirable, and elective care orthodontic treatment need respectively.

Conclusion: High proportion of children are affected with the significant mal-alignment of teeth that compromises their oral and general health. Some of them are aware of the condition and know that they need orthodontic treatments while others do not know that they need to be treated.

Recommendation: "1. Integration of tooth mal-alignment and jaws mal-relation education in the community or school based programs on oral health education sessions should be highly considered. 2. Health insurance organizations, both government and private, should at least provide packages that fully covers the costs for patients or clients who presents with severe to handicapping level of malocclusion."

29. Quality of life before and after treatment among patients with maxillofacial fractures at the MNH

Authors: **JESCA GHASTON BISIGORO**, DR. ELISON.N.M. SIMON, DR BONIPHACE KALYANYAMA

Affiliation: MUHAS

Background: Quality of life in medical science is particularly acknowledged as health related quality of life accepted as a crucial aftermath for evaluating impacts of any disease and to appraise effectiveness of any treatment. Studies in Tanzania have reported an increased prevalence of maxillofacial fractures; however, because of scarcity of information, the effect of these fractures and treatment given on the quality of life of the affected patients is still unknown.

Objective: To determine the quality of life before and after treatment among patients with maxillofacial maxillofacial fractures attending the MNH.

Methodology: This was prospective longitudinal study to determine the quality of life before and after treatment among patients with maxillofacial fractures who attended at Muhimbili National Hospital.Clinical examination form, an interviewed well structured questionnaire, and adopted and modified GOHAI index was used to assess quality of patients with maxillofacial fractures.Patients were followed at pre treatment, 6th and 8th week post treatment.

Results: The study involved 157 patients with maxillofacial fractures attended the MNH and MUHAS dental clinic. Patients aged less than 40 years had good quality life compared those aged 40 years and above with OR= 4.2(1.3-13.4) at 6th week post treatment. Patients with lower face fracture had higher OR=25.8 (4.7-143.2), compared to those of mid face fracture OR=5.8(1.13-30.3). Patients treated by closed reduction had poorer quality of life compared to those treated by ORIF at 6th week post treatment OR=1.8(1.13-30.3).

Conclusion: Maxillofacial fractures negatively affected patients quality of life, even though after treatment patients' QoL improved. Increasing in age was found to be associated with poorer quality of life at 6th week week post treatment.Patients with lower face fracture had good quality of life compared to other types of fractures also patients treated by ORIF had better quality compared to closed

Recommendation: Clinicians should be more careful on proper diagnosis and treatment planning so as to avoid managing patients with closed reduction who would otherwise benefit from ORIF. The Government should ensure adequate supply of oral and maxillofacial surgical equipments to enable clinicians to provide quality oral and maxillofacial care. More studies should be done on the QOL of pts with fractures.

30. Prevalence of developmental dental anomalies and associated factors among patients attending orthodontic treatment.

Authors: **Mathew C. Mseke**, Matilda Mtaya, Ferdinand Machibya

Affiliation: MUHAS

Background: Developmental dental anomalies are the aberrations of the tooth that involve alterations of number, position, structure, shape and size. The prevalence of the development of dental anomalies worldwide ranges from 5.64% to 74.7%. These conditions can be due to genetic, environmental, systemic conditions and local factors. Developmental dental anomalies often result in malocclusions. Moreover, developmental dental anomalies complicate orthodontic treatment planning.

Objective: The study examined the prevalence of developmental dental anomalies and associated factors among patients attending orthodontic treatment at MUHAS dental

Methodology: This is hospital-based cross-sectional study design involved 390 patients attending orthodontic treatment at the MUHAS dental clinic. A consecutive sampling strategy was employed. Data were collected by clinical examination and examination of patient orthopantomography (OPG). Patients filled out a consent or assent form prior to their participation in this study. The clinical examination was done by trained personnel who was calibrated against an experienced orthodontist. Data entry, cleaning and analysis

Results: A total of 390 orthodontic patients attending the MUHAS dental clinic were examined, and the overall prevalence of developmental dental anomalies was 45.9%. Of these, 34.7% had at least one anomaly, and 8.5% had more than two dental anomalies. The most common dental anomalies observed were ectopic eruption (18.2%), tooth impaction (10.5%), and microdontia (10.2%). The least observed developmental dental anomalies were macrodontia, hyperdontia, and tooth transposition, each with a prevalence of 1.3%. There was no association between gender and

Conclusion: Patients who attended the MUHAS dental clinic had a higher prevalence of developmental dental anomalies. Macrodontia is associated with class III malocclusion. More over developmental dental anomalies is associated with class II Malocclusion

Recommendation: Developmental dental anomalies should be considered by dentists and specialists during the management of both orthodontic patients and non-orthodontic patients in the MUHAS dental clinic. Further studies to be conducted to study association of developmental dental anomalies and malocclusion which involve large sample size.

31. Effect of presurgical submucosal injection of dexamethasone after mandibular m3 disimpaction at MUHAS dental clinic

Author: **PATRICE KUETE MEKONTCHOU**, KARPAL SINGH SOHAL, FARRID SHUBI M.

Affiliation: SCHOOL OF DENTISTRY, MUHAS

Background: The surgical extraction of the impacted mandibular M3 molar is among the most performed surgeries by oral and maxillofacial surgeons. This routine procedure is linked to known post-operative complications described as

trismus, pain and swelling of the face. Dexamethasone is one of the mostly used steroid in oral surgery. Oral administration of dexamethasone is a simple, painless, non-invasive, and cost effective approach to minimise postoperative sequelae.

Objective: To assess the effect of presurgical submucosal injection of dexamethasone on Mandibular M3 disimpaction at MUHAS dental clinic.

Methodology: "Randomized control trial study conducted at MUHAS Dental clinic. The population was adult patients diagnosed clinically and radiographically with impacted Mandibular M3. Patients were randomly assigned into 2 groups: Case-received injection of 8mg dexamethasone; and control received lignocaine. Same surgical technique by a postgraduate student or specialist and postoperative medications. Pre-surgical examination and measurements on specific points were recorded. Follow-up on days 3 and 7 for clinical examination and measurement. Data analysis on SPSS"

Results: Preoperative administration of dexamethasone was found to reduce the sequelae related to surgical disimpaction of the mandibular third molar. The pain was reduced through the VAS score pain from day 3 with statistical significance (p=0.025<0.05). The patient was experiencing better mouth opening from day 3 and day 7. Clinically, the facial oedema was reduced considerably on day 3 and day 7. Also, during the surgery, minimal postoperative complications like bleeding, and infection were reported.

Conclusion: The findings of the present study show that preoperative submucosal injection of dexamethasone 8mg is a valuable option to manage pain, facial swelling, and mouth trismus related to impacted mandibular third molar surgery.

Recommendation: "More studies with large sample size and multiple centers may help to get a representative conclusion. Studies to assess the inferior alveolar bundle injury during the surgery that can affect the outcomes, Define a standard surgical protocol for mandibular M3 disimpaction, printed and available in the clinic would help to improve the quality of the service."

32. Knowledge on sickle cell retinopathy and screening among healthcare workers in Dar es Salaam hospitals

Authors: Anold A. Ndyamkama, Dr Celina F. Mhina, Prof Milka Mafwiri

Affiliation: MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES (MUHAS)

Background: Sickle cell retinopathy (SCR) is an ocular manifestation of sickle cell disease whose visual complications can be prevented by early screening and timely treatment. Healthcare worker's knowledge on SCR and its screening aids in early referral for proper eye care. Knowing healthcare worker's knowledge on SCR and its screening will help in establishing evidence based protocol for timely referral to ophthalmologist for early screening and proper management

Objective: To determine healthcare worker's knowledge level and associated factors on SCR and screening among selected hospitals in Dar es Salaam.

Methodology: Hospital based analytical cross-sectional study conducted among 620 nurses and clinicians. Simple random sampling was used to select study participants. Data analysis was done using SPSS version 23. Chi square/Fishers exact test was used to show association between level of knowledge and the independent variables. Univariate and multivariate logistic regression was used to determine the strength of associations. P values ≤ 0.05 was considered statistically significant.

Results: Out of 620 healthcare workers, 63.9% and 36.1% were nurses and clinicians respectively. The level of knowledge on sickle cell retinopathy (SCR) and its screening was 80% and 33.3% respectively. Age, duration since graduation and duration of practice were significantly associated with adequate knowledge on SCR and screening.

Conclusion: The level of knowledge on SCR among healthcare workers was high. However, the level of knowledge on SCR screening was low. Advancing age, short duration since graduation of the latest education and longer duration of clinical practice were associated with adequate knowledge on SCR and SCR screening.

Recommendation: Healthcare workers to have on job training to upkeep the knowledge on sickle cell retinopathy and its screening.

33. Evaluation of post-operative visual outcome after cataract surgery at CCBRT, Dar es salaam Tanzania.

Author: Dr. Cyprian Gabriel Ntomoka, Dr. Katuta Ramadhani

Affiliation: CCBRT HOSPITAL

Background: Cataract is the leading cause of blindness (51%) and the second leading cause of visual impairment (33%) worldwide, in low- and medium-income countries bearing a disproportionately high burden. Research shows that the proportions of participants achieving postoperative presenting visual acuity varies widely in LMICs ranging from 29.9% to 80.5%, indicating significant variability in outcomes. Challenges such as refractive errors, ocular comorbidities, and surgical complications contributed to this variation.

Objective: To evaluate postoperative visual outcomes after cataract surgeries performed at a tertiary hospital

Methodology: A retrospective case review from January to December 2023. Data were extracted from the MSCO software considering demographics' characteristics, pre-and post-operative visual status, and surgical complications. The pre and postoperative visual acuity was classified using the WHO category of Visual Impairment and Blindness. The standard surgery outcome parameters and the WHO grading criteria for the surgical outcome were used.

Results: A total of six hundred and eighty- eight eyes were included in the audit. Forty- two percent were from patients aged between 60 and 69 years and majority (80.42%) had phacoemulsification. Out of 559 eyes reviewed 4 to 11

weeks postoperatively 92.5% had a normal best-corrected vision (WHO standards >90%) and only 2.1 % had poor visual outcome (WHO criteria <5%). Only 0.9% had intraoperative complications (Standard is <10%). Presenting poor vision was mainly due to selection or Refractive error.

Conclusion: Postoperative visual outcome for cataract in tertially hospitals is well within the recommended WHO standards.

Recommendation: There is no necessity of people living with visual impairement or even blindness becasue of cataract because currently we have modern and reliable cataract surgical services.

34. Treatment outcomes of patients with precancerous cervical lesions managed by cryotherapy and loop electrosurgical procedure

Author: **Edwin Gathendu**, Dr Salum Lidenge

Affiliation: MUHAS, Ocean Road Cancer Institute (ORCI)

Background: Precancerous cervical lesions are a major health burden and a major step towards the development of cervical cancer. The main risk factors are persistent genital tract infection with high-risk strains of Human papillomavirus (HPV) like 16 or 18 and the immunosuppressive background of Human immunodeficiency virus (HIV) infection.

Objective: This study aims to assess the treatment outcome of clients managed under the single visit approach of screening and treatment

Methodology: This study retrospectively analyzed clients who were diagnosed with precancerous cervical lesions and subsequently managed in the screen and treat single visit program at ORCI for a period of three years. All clients who on screening were found to have positive cervical visual inspection with acetic acid (VIA) in the period between January 2020 and December 2022 will be enrolled.

Results: Of the 5077 clients screened 247 were found to be VIA positive, those who were aged 46 years and above were 39% less likely to be diagnosed with precancerous cervical lesions compared to those aged 35 to 45 years and those with HIV were four times more likely to be VIA positive. HIV is a predictor of positive VIA result at one year post treatment.

Conclusion: HIV not only contributes to the risk of developing precancerous cervical lesions but also predicts positive VIA result at one year follow up for clients treated (cryotherapy or LEEP).

Recommendation: A prospective study of patients who are treated for precancerous cervical lesions to further establish other predictors of outcome and also confirm the cure rate of the treatments used.

35. A Comparative Analysis of Early Post-operative Outcomes Between Laparoscopic and Open Inguinal Herniotomy in Pediatric Patients Treated at Muhimbili National Hospital, Tanzania

Authors: **Satrumin A Shirima**, Dr Ally Mwanga, Dr Daniel Kitua

Department: Department of Surgery

Background: Inguinal hernias are common congenital anomalies in pediatric patients, requiring surgical repair when indicated to prevent complications. The primary methods for repairing pediatric inguinal hernias are laparoscopic (LH) and open (OH) herniotomy. However, there is limited evidence comparing early postoperative outcomes between these approaches in our settings.

Objective: To compare the long-term and short-term postoperative outcomes of laparoscopic and open inguinal herniotomy among pediatric patients treated at MNH

Methodology: This 5-year retrospective comparative cross-sectional study included pediatric patients under the age of 14 years who underwent OH or LH at MNH from January 2019 to December 2023. Demographic and clinical data were collected from patient records, while information on parents' satisfaction and cosmetic ratings was gathered via over-the-phone interviews. The chi-square test and independent t-test were used to compare the outcomes of the two surgical methods.

Results: The study included 156 patients with a mean age of 26 months SD 25.524, predominantly male with a 9:1 male-female ratio. OH was the most frequently used approach, accounting for 80.8% of the cases. There was no statistically significant difference in postoperative complications between LH and OH (p>0.05). However, subgroup analysis of bilateral hernias showed that the duration of surgery, length of postoperative hospitalization, total hospitalization duration, patient satisfaction, and cosmetic outcomes favored LH (p<0.05). reccurence was high in LH.

Conclusion: LH demonstrated several advantages over OH, including shorter surgery duration in bilateral hernias and in-hospital stay; better patient satisfaction, and cosmetic outcomes, but with an increased risk of hernia recurrence within one year. Therefore, making a well-informed decision with the patients or caregivers is essential. .

Recommendation: Surgeon can choose either LH or OH for inguinal repair based on parents' choice and cost issues. Furthermore, reccurence rate in LH need to be more studied using large sample size in prospective study.

36. Determinants of cholera outbreak in Mwanza,Tanzania, January 2024: A matched Case Control Study

Authors: **Sephord Saul Ntibabara1**, James Allan1, Renard Charles1,2, Dastan Ngenzi3,Nsiande Lema1, Ally Hussein1, Joel Manyahi4 Ruta Thomas2, Saidi Kapiga5

Affiliation: Tanzania Field Epidemiology and Training Program (TFELTP), Mwanza Regional Health Management Team, Epidemiology Section, Ministry of Health. Dodoma, Tanzania, Department of Microbiology and Immunology. Muhimbili University of Health and Allied Sciences, National Institute of Medical Research-Mwanza Intervention Trials Unit (NIMR-MITU)"

Background: Cholera is an acute diarrhoea disease caused by eating or drinking contaminated food or water by Vibrio cholerae. Early January 2024, a cholera outbreak was reported in Mwanza. Environmental, social, cultural and economic factors propagate the spread of infection in communities. However, factors that propagate the outbreak have not been studied. The study was conducted to determine factors that were associated with the outbreak in Mwanza region in 2024.

Objective: To determine risk factors associated with a cholera outbreak in the Mwanza region in January 2024

Methodology: A matched case-control study was conducted in January to March 2024. Standardised questionnaires was administered to all participants. Controls were matched to the cases in 2:1 ratio based on sex, neighborhood and age. Age difference between cases and control were 5years. Chi-square was used to test the significance of categorical variables. Conditional logistic regression was used to determine the association of cholera outbreak risk factors. P-value <0.05 was statistically significant.

Results: Of 168 participants, 56 were cases. Eating away from home had 11.95 odds of contracting cholera (aOR 11.95, 95% CI: 3.29-43.35). Having contact with a cholera case had 29 times the odds of contracting cholera (aOR 29.43, 95% CI: 4.62-187.58). Use of Lake Victoria water for domestic purposes had 20 odds of contracting cholera (aOR 20.22, 95% CI: 1.32-309.78). Individuals who received health education on diarrheal diseases before the outbreak occurred were protected from contracting cholera (aOR 0.19, 95% CI: 0.05-0.71).

Conclusion: From our study it can be summed that, eating away from home habit, having contact with cholera patients, use of Lake Victoria water source for domestic purpose were independently risk factors for cholera outbreak. However, having health education on cholera prevention before the outbreak was a protective factor against contracting cholera.

Recommendation: The combination of health education, emphasis on infection prevention and control, clean water infrastructure improvements, and individual practices in food safety and hygiene are critical strategies for minimizing the risk and spread of cholera in Mwanza communities.

37. Hypofractionated Radiotherapy for Prostate Cancer: Preliminary Results from HypoAfrica Study

Author: **Twalib Ngoma,** Abba Mallum, Adedayo Joseph, Solomon Kibudde, Azeezat Ajose, Emmanuel Lugina, Maureen Bilinga Tendwa, Awusi Kavuma, Jumaa Dachi Kisukari, Samuel Adeneye, Thokozani Mkhize, Adewumi Alabi, Alita Mrema,

Habiba Ngoma, Ibrahim El Hamamsi, Mamsau Ngoma, Mark Athumani Mseti, Precious Akowe, Andrej Studen, Heng Li, Joerg Lehmann, K. Wijesooriya, M. Saiful Huq, Stephen Avery, William Swanson, Wilfred Ngwa, Luca incrocci

Affiliation: MUHAS

Background: Prostate Cancer (PCa) is the most common cancer among African men. The rising number of PCa patients in Africa warrants the adoption of evidence-based approaches that enhance treatment accessibility. Hypofractionated radiotherapy (HFRT) increases access to radiotherapy by reducing treatment cost and duration for patients and providers. Studies conducted in Europe and USA have demonstrated that HFRT for Pca is non inferior to conventional radiotherapy in terms of toxicity andoutcomes

Objective: This study aims to explore the feasibility of applying moderate HFRT to treat localized PCa in African men.

Methodology: HypoAfrica is a multi-centre feasibility study that recruited men with localized PCa. Patients received HFRT total dose of either 60 Gy (low and intermediate risk PCa) or 62 Gy (high-risk PCa) delivered in 20 fractions using IMRT or VMAT. The primary end point was gastrointestinal (GI) and genitourinary (GU) toxicities assessed using CTCAE criteria before the start and upon completion of radiotherapy and at 3-, 12-, and 24- months post completion of radiotherapy.

Result: One hundred and eighty two men were enrolled from three centres in Tanzania, Nigeria and South Africa. At completion of radiotherapy, >grade 2 toxicity was reported by 3% of participants got GI and 5% (n=6) for GU. At three months post radiotherapy, > grade 2 toxicity was reported by none and 2% (n=2) of participants for GI and GU, respectively. Twelve months post radiotherapy, >grade 2 toxicity was reported by 4% (N=1) and 8% (n=2) of participants for GI and GU respectively

Conclusion: These data demonstrate that HFRT for localized PCa is feasible in Africa with Acute GI and GU toxicities being similar and even lower to those seen in HFRT trials from Europe (>grade 2 toxity in 38% and 49% (4 weeks after HFRT start) and 3% and 5% (18 weeks after HFRT) of participants for GI and GU, respectively

Recommendation: Radiotherapy centres in Africa should consider employing HFRT for localized PCa to enhance patient accessibility while also reducing the burden on limited personnel and infrastructural resources.

38. PREVALENCE, CLINICOPATHOLOGIC FINDINGS AND ASSOCIATED FACTORS OF ADVANCED COLONIC NEOPLASIA AMONG PATIENTS UNDERGOING COLONOSCOPY AT

Author: Dr. Jacqueline Kihwele

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Colorectal Cancer (CRC) is the 3rd most common cancer worldwide. As the third most common malignancy and the second most deadly cancer, CRC is estimated to have caused about 0.9 million deaths worldwide in 2020. CRC ranks third amongst all types of cancers in North Africa, while in East, Central, South, and West Africa it is ranked fourth. With a six-fold increase in CRC in the last decade in Tanzania,

Objective: To determine the prevalence, clinical, colonoscopic, histopathological findings, and associated factors among patients with advanced colonic neoplasia at MNH

Methodology: Data processing was through SPSS v 23. Variables were summarized as means and proportions. Multivariate analyses of variance were used to evaluate the relationships between ACRN and associated factors. Ethical approval was sought from the Muhimbili University of Health and Allied Sciences (MUHAS) Research and Ethics Committee. Permission to conduct the study was obtained from the MNH administration.

Results: Total of 200 participants were involved with a median age of 56 years, and IQR 42-66. Over half of the participants were male (59%). Most participants presented with abdominal pain (60.2%), blood in stool (57.1%) and constipation (51.1%). Among all participants, 25.5% were found to have advanced colorectal neoplasia. A positive family history increases the odds of having an ACRN. Having a first-degree relative with CRC increased the odds of having an ACRN by 4.6 (4.56,4.8).

Conclusion: The prevalence of ACRN among patients undergoing colonoscopy at MNH was 25.5%. About 78.5% of patients undergoing have a lesion at colonoscopy. There is statistically significant increased odds of an ACRN at colonoscopy if a participant has a first-degree relative with a history of CRC.

Recommendation: The conclusion supports the current screening guidelines that recommend colonoscopy every 5 or 10 years, starting at the age of 40 for first-degree relatives of patients diagnosed with CRC. In addition, individuals with advanced colorectal adenomas should be counselled about the increased risk in first-degree relative

39. TREATMENT OUTCOME AMONG PATIENTS WITH EMPYEMA THORACIS UNDERGOING DECORTICATION AT MUHIMBILI NATIONAL HOSPITAL

Authors: **Dr Godson Kamala**, Dr Ramadhan Khamis, Dr Mungeni Misidai

Affiliation: Muhimbili University of Health and Allied sciences

Background: Empyema thoracis is collection of purulent within pleural space. In developing countries Tuberculosis is the leading cause. Due to delayed health seeking and referral most patients in our setting attend at our facility during organizing stage of empyema thoracis. Thick cortex formation during this stage impairs lung expansion and chest deformity. At this stage treatment of choice is thoracotomy and decortication.

Objective: Evaluating the Clinical characteristics of patients with chronic empyema thoracis and determining the factors associated with poor outcome post decortication.

Methodology: This was 5 years cross-sectional study design conducted at Muhimbili National Hospital from January 2018 to December 2022. Included patients aged 18 years and older who underwent decortication. Convenience sampling technique was used to recruit eligible patients. Demographic data, clinical characteristics and treatment outcome parameters were analyzed to determine variables associated with poor outcome.

Results: 122 patients with chronic empyema thoracis underwent decortication, majority were below 45 years, with male preponderance (72.1%). Most of them presented with symptoms for more than 2months (70.5%) which included shortness of breath (96.7%), chest pain (82%) and productive cough (50%). Tuberculosis was the most common etiology of empyema thoracis (47.5%). Majority of patients attained full lung expansion and resolution of empyema thoracis 73.8%, old age, left sided empyema and dry cough were identified factors associated with poor outcome.

Conclusion: This study demonstrates several important clinical features of patients with chronic empyema thoracis. Decortication is safe and effective surgical procedure for stage III empyema thoracis. Mycobacterium tuberculosis is commonest cause of empyema thoracis to the patients attending our facility. Most important, old age, dry cough and left sided empyema thoracis are predictors for adverse outcome among patients with empyema thoracis

Recommendation: It is imperative that all patients with empyema thoracis routinely screened for tuberculosis this is because most patients with empyema thoracis had tuberculosis as etiology. Identified predictors of poor outcome should be further investigated in prospective study design and management protocol designed to reduce morbidities and mortalities associated with decortication.

40. SILENT SUFFERING: STORIES OF RESILIENCE AND HOPE AMONG WOMEN WITH OBSTETRIC FISTULA ATTENDING AT CCBRT

Authors: **Zeyana Rassul Mwadzaya**, Matilda Ngarina, , Amani l. Kikula, Lillian T. Mselle, Peter Majinge

Affiliation: MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

Background: Worldwide, it is estimated that 2-3.5 million girls and women are suffering from undetected or untreated fistula with 50,000-100,000 cases occurring each year. Majority coming from Sub-Saharan Africa and South Asia. More than 21,400 women are living with untreated obstetric fistula in Tanzania and having to live with socio-cultural and psychological consequences which are not fully explored and reported.

Objective: This study aimed to explore the experiences of women who have obstetric fistula and their coping strategies attending at CCBRT hospital.

Methodology: A phenomenological qualitative study on women attending CCBRT hospital from November 2023 to January 2024. The purposive sampling technique was used with the principle of information saturation enforced. Seven in-depth interviews using a semi structured interview guide were done with the aim of exploring women's lived experiences and coping mechanisms. The interviews were audio-recorded, transcribed, and coded in Swahili language. Deductive thematic analysis inspired by Braun and Clarke was used.

Results: We came up with two themes which included experience and coping mechanisms of obstetric fistula. Women suffered physical and psychosocial effects of obstetric fistula. This in turn led them to develop coping mechanisms to be able to deal with the stress. Both positive and negative coping mechanisms were employed thus affecting their quality of life.

Conclusion: The consequences of having an obstetric fistula spans across a multiple sphere of a woman's life. The health care system should be adapted to care for not only repair but early detection of the fistula and the accompanying consequences that women suffer due to the fistula.

Recommendation: Outreach programs should include community sensitization on obstetric fistula and the implications of ostracizing women affected by this condition. Only in providing knowledge on the effects of stigmatization would we be able to curb the negative coping mechanisms inevitably employed by them. This in turn would immensely improve the QOL of these women.

41. Optimizing Cord Blood Collection and Processing Practices in Tanzania: Technical Validation Approach

Authors: Mohamed Z. Alimohamed**, Aisha Fikirini**, Salmaan Karim, Florence Urio, Zakaria Mtulo, Grace Moshi 4, Fadhlun A. Al-beity, Julie Makani

Affiliation: Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Cord blood is a rich source of hematopoietic progenitor stem cells that is used for regenerative treatment of various disorders including sickle cell disease. For years, newborn umbilical cord has been disposed along with the placenta but its advantages such as ease of accessibility, non-invasive, safe and painless procedures for its collection makes it a suitable source for hematopoietic stem cells.

Objective: This study aimed to evaluate the clinical and laboratory techniques for the collection, processing and quantification of mononuclear cells (MNCs)

Methodology: This was an experimental study which included 44 cord blood samples collected from randomly selected consented pregnant women at Muhimbili National Hospital and Aga Khan Hospital. Transportation time of the samples from the hospitals to the laboratory averaged 15 minutes. Screening for

the sickle cell status was done using HemoTypeSCTM. Mononuclear cells were isolated by density gradient centrifugation using Ficoll-PaqueTM PLUS media and cells counting was done manually using a

Results: Cord blood samples screened for Sickle cell status, 85.71% were AA and 14.29% were AS. 6 CB samples tested positive for contamination. The median volume of cord blood collected was 65 mL (IQR 43.75 – 77.5) and the median MNCs count per mL of cord blood was 2,500,000 (IQR 1,800,347 – 2,981,730.5). Viability pre- and post-freezing was 95.30% and 64.23% respectively.

Conclusion: The study managed to establish a pipeline for adopting the practice of cord blood donation and stem cells preservation.

Recommendation: We recommend the establishment of cohorts of donors and building of genotyping infrastructures, skills and capabilities which will facilitate cord blood banking and transfusion practices in Tanzania

42. Community Awareness on Rheumatic Heart Disease Training Workshop in Tanzania: A Prospective study.

Authors: **Clement Kabakama**, Jessica Abrams, Pilly Chillo ,Liesl Zuhlke.

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Acute rheumatic fever and rheumatic heart disease are significant public health concern around the world. Rheumatic heart disease (RHD) affects over 30 million people Globally causing at least 310,000 premature deaths annually. Focus on the roadmap to control rheumatic heart disease with effort to reduce the burden of diseases throughout the country in the endemic region.

Objective: The Aim to improve the overall understanding of the health care workers towards the ability to RHD.

Methodology: Community awareness training workshop conducted in endemic region, two district hospitals, Dareda Kati health Centre, and Babati mission hospital. The Observation prospective study included a one-week workshop offered using flip charts to health care workers and provided a questionnaire at the end of the training so as to provide their feedback. A prepared structured questionnaire was provided to healthcare workers.

Results: A total of 32 health care professionals, comprising nurses, physicians, medical officers and a hospital attendant, were trained at the Dareda hospital and Dareda Kati health Centre in Babati. Among the 32 professionals, only 24 health care professionals were able to give feedback which was re-soundly positive. Among of the healthcare professionals provided feedback for the workshop and started that the workshop was very important and informative as I understood very well as a medical doctor, I will implement to my clients

Conclusion: The community awareness translated Swahili Flipcharts training workshop in Manyara was conducted as a pilot study emphasized the need for such a tool to support for prevention of rheumatic fever and rheumatic heart disease through awareness rising among heart risk communities in the region as to prevent morbidity and mortality of rheumatic heart disease throughout the country.

Recommendation: The ongoing Programme recommends that community awareness rheumatic heart disease Flipcharts serve as a dual purpose by providing Primary health workers with education and as tool for guiding their interaction with RHD patients.

43 Early versus Late discharge for High Mortality Risk Signs in Young Infants with possible infections

Authors: Karim Manji, Rodrick Kisenge, Nahya Salim, Sarah Somji, Christopher Sudfeld, Christopher Duggan, Yasir Bin Nisar

Affiliation: MUHAS

Background: Neonatal infections account for over 35% of all neonatal deaths in South Asia and sub-Saharan Africa. According to World Health Organization (WHO), those young infants presenting with clinical severe infection (CSI) can be treated as outpatients when referral to hospitals is not available. However, infants who have the certain/multiple signs of CSI are at a high risk of mortality and might benefit more from hospitalization.

Objective: Early versus late discharge in young infants with high mortality signs who clinically improve 48hours after treatment and negative test

Methodology: Open label randomized controlled trial (RCT). A participant will be required to have two or more signs of CSI and clinically improve 48 hours after initiation of treatment and have a negative C-reactive protein (CRP). The child is randomized to either discharge at 48 hours or continued hospitalization. Participant will be assessed at days 4, 8 and 15 for outcomes. This includes mortality and other morbidity outcomes.

Results: The enrollment and follow up of 1000 participants has been completed at our site. Since it is a multi-site trial, we are waiting for other sites to complete enrollment and follow up before we can conduct analysis.

Conclusion: Establishing good systems are crucial for starting, running and completing a good clinical trial. Building a good rapport, working closely with healthcare facility staff but also ensuring good training is being conducted at sites. Also, ensuring that the quality of study procedures, standard of care as well as quality data is collected during this process ensures a good study.

Recommendation: Results will be shared once the other sites have completed recruitment and follow up and analysis is completed

44. Extending Case-Based Pediatric Neurology Training to Generalists in Tanzania: An International Collaboration

Authors: Steven G. Duncan , Yamini Vepa, **Goodluck W. Vehael**, Sesilia M. Kileo, Kassim O. Kassim, Lilian Msambichaka, Rebecca Stainman MD   Mwangika

Background: General practitioners in Tanzania are tasked with managing acute and chronic illnesses in children despite receiving minimal dedicated pediatric training. Global health initiatives focused on general medicine are widespread in Sub-Saharan Africa, but subspecialty training initiatives are limited. This project aims to impart pediatric subspecialty instruction to physicians and medical trainees in Tanzania to address gaps in neurology education among general practitioners and adult providers who treat children and adolescents

Objective: To impart pediatric subspecialty instruction to physicians and medical trainees in Tanzania to address gaps in neurology education among general

Methodology: For a period of three months, the curriculum was modified to address neurology topics including fundamentals of the physical exam, seizure disorders, stroke response, and neuroinfectious diseases including malaria and meningitis. Neurology faculty speakers presented cases of pediatric disease and emphasized utilizing clinical skills in a low-resource setting without reliance on expensive testing or imaging. A pre- and post-participation survey of Likert-style questions assessed the impact of the lecture series

Results: All respondents were more comfortable with meningitis and stroke than they were with epilepsy and migraine. Tanzanians were more comfortable diagnosing epilepsy ($p=0.050$) while American respondents were more comfortable diagnosing migraine ($p=0.021$). Tanzanian respondents were far more confident in diagnosing and managing cerebral palsy and malaria than their American counterparts ($p<0.001$). Tanzanian respondents were more comfortable diagnosing ($p=0.038$) and managing ($p<0.001$) meningitis as well. Improvement in comfort with neurologic exam skills achieved statistical significance after one dedicated session ($p=0.033$)

Conclusion: Confidence increased in general management of neurologic diseases in both children and adults after all three sessions. A great majority of participants agreed that international collaboration enriched their learning experience (mean of 4.6 on 5-point Likert scale)

Recommendation: Virtual case-based discussions between medical learners in different countries can facilitate sharing of different perspectives and improve accessibility of subspecialty-specific knowledge

45. Knowledge, Attitude and Perceived Barriers Among Health Care Providers Toward Use of Analgesia for Labour at Muhimbili National Hospital, Tanzania.

Authors: **Dr. Franco s. Henjewele,** Dr. Matilda Ngarina, Dr. Zainab Yussuph

Affiliation: MUHAS

Background: Labour analgesia administration is an essential component of standard obstetric care. Using analgesia for labour pain relief is not common in Africa, especially Sub-Saharan Africa. At Muhimbili National Hospital the practice of labour analgesia is not commonly done despite the high demand and request for analgesia from women in labour.

Objective: To assess knowledge, attitude, and practice barriers of using analgesia for labour pain among health care providers at MNH

Methodology: A cross-sectional study was conducted in December 2023, data collection using structured self-administered questionnaire from healthcare provider was done after obtaining consent from each participant. Data were coded and analyzed using SPSS version 23 to determine frequency and percentage.

Results: A total of 202 health care providers participated with majority being midwifery and anesthetists. More than half 115(56.9%) of the healthcare providers had low knowledge, majority 128(63.4%) of the participants had poor attitude towards the use of analgesia for labour pain. About 29 (14.4%) of the participants reported inconsistency providing analgesia for labour pain. Most of the healthcare providers 175(86.6%) reported that "absence of clear guideline that govern provision of labour analgesia as major perceived barrier for HCP to practice.

Conclusions: There is a wide gap among health care providers in knowledge, Attitude, and low utilization of analgesics for labour pain at MNH.

Recommendation: (1)There is a need to train HCP at MNH on labour pain analgesia (2)There should be a clear guideline, protocol and policy on the management of labour pain

47. Factors Affecting Breastfeeding Practices Among Nursing Mothers in Njombe Region, Tanzania. A qualitative study

Author: **Jonathan Beda Haule**, Rebecca Edward Rabach, Gladys Reuben Mahiti

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Exclusive breastfeeding (EBF) is critical for infant health yet remains below national and World Health Organization (WHO)

targets/recommendations in Tanzania (64%, and 90% respectively). The Njombe region, despite a higher EBF prevalence (70%), exhibits high stunting rates (53.6%).

Objective: This study explores factors influencing EBF practices among mothers in Njombe.

Methodology: The study employed a cross-sectional design, which is a qualitative approach. The study involved 5 focus group discussions with mothers (children 6-12 months), 7 Key informant interviews with healthcare providers, and 9 in-depth interviews with male/spouses of nursing mothers. Data collection of males occurred through random household visits. Credibility, dependability, transferability, and confirmability ensured research quality.

Results: Traditional medicine, misinterpreting infant cues, discarding of colostrum, and cultural norms emerged as significant influences on EBF practices. Participants reported the use of traditional remedies before six months, often associated with perceived hunger and growth. Beliefs about breast changes and cultural interpretations of crying influenced the early introduction of solid foods. Conversely, nutrition counselling during antenatal care (ANC) positively impacted EBF practices. Maternal perspectives highlighted the importance of professional support, with health facility accessibility and skilled lactation professionals influencing EBF

Conclusion: This study reveals the interplay of family dynamics, healthcare guidance, and cultural influences on EBF practices in Njombe. It emphasizes the need for multifaceted interventions that address cultural beliefs, enhance healthcare worker education on EBF support, and encourage active family involvement. By tackling these factors, we can foster long-term improvements in EBF practices, ultimately benefiting mothers and infants in the

Recommendation: i. Educational programs for men: Tailored workshops or information sessions can enhance their understanding of EBF benefits and their supportive role. Highlighting how their support directly impacts maternal and infant health can resonate with men. ii. Open communication forums: Establishing spaces for families to discuss breastfeeding openly can address misconceptions and promote evidence-based knowledge. iii. Inclusive community support networks

48. Fetal, Neonatal, and Infant Death among Pregnant Women Living with HIV in Tanzania

Authors: **Karim P. MANJI** , Alfa MUHIHI , Christopher P. DUGGAN , Fadhlun M ALWY- AL-BEITY, Nandita PERUMAL , Nzovu ULENGA , Wafaie W. FAWZI , Christopher R. SUDFELD

Affiliation: Muhimbili University of Health and Allied Sciences

Background: The impact of HIV infection on the outcome of the pregnancies is an important aspect. There is need to study the dynamics of the pregnacies of HIV poitive women.

Objective: The objectives of the study were to assess the risk of fetal and infant death and the association with sociodemographic,

Methodology: We conducted a prospective cohort study of 2,299 pregnant women living with HIV (PWLHIV)on antiretroviral therapy (ART) and their offspring to 1-year of age in urban Tanzania. We described rates of fetal death, stillbirth (28 weeks gestation), neonatal death (28 days),and infant death (<365 days), assessed risk factors with generalized estimating equations, and estimated the proportional contribution of prematurity and small-for-gestational age (SGA) to neonatal and infant mortality.

Results: There was a total of 136 fetal deaths (5.6% risk) and the stillbirth rate was 42.0 per 1,000 total births. Among 2,167 livebirths, there were 57 neonatal deaths (26.3 per 1,000 livebirths) and 114 infant deaths (52.6 per 1,000 livebirths). Twin birth was associated with neonatal death, while maternal CD4 T-cell count ;350 cells/μL in pregnancy was associated with infant death (p-values ;0.05). As compared to term-appropriate-for-gestational age (AGA) births, the relative risks for neonatal mortality for term-SGA, preterm-AGA,

Conclusions: The risk of death is high for offspring of PWLHIV in urban Tanzania and the combination of prematurity and fetal growth restriction may account for nearly half of neonatal deaths.

Recommendation: The care of HIV pregnant women to the fruitful outcome of the pregancy needs to be taken care of. It is a multipronged issue and more research as well as care is needed.

49. Knowledge and Attitude Towards Utilization of Antenatal Care Contacts Among Pregnant Women Attending Reproductive Health Clinic at Kimara Health Center, Dar es Salaam, Tanzania

Author: Tainoi Kayu1,2, Lucy Kisaka2, Prof Tumbwene Mwansisya3

Affiliation: THE AGA KHAN UNIVERSITY

Background: Optimal antenatal care is an important service that both women and babies require. The World Health Organization recently recommended a minimum of 8 ANC contacts to promote healthy motherhood and positive pregnancy outcomes. Despite of the effort to reduce maternal and neonatal mortality, antenatal care utilization is still low in middle- and lower-income countries including Tanzania. Therefore, this study aimed to examine the knowledge and attitude towards utilization of antenatal health care.

Objective: To determine knowledge and attitude towards utilization of antenatal care contacts among pregnant women attending the reproductive health clinic at Kimara Health Center

Methodology: This study used a cross-sectional design to assess the knowledge and attitude towards utilization of antenatal care contacts among pregnant women at Kimara Health Center in Dar es Salaam, Tanzania. Through self-administered questionnaires, information was gathered from 200 pregnant women. Data entry, analysis, and interpretation was done by using SPSS software version 25. The appropriately statistical tests including chi-square test was used for testing relationship between two categorical variables such as knowledge and attitude.

Results: The study included 200 participants. This finding highlights the relationship between social demographic characteristics and ANC utilization while education and occupation was found to be statistically significant (df=2: p=0.02, df=2: p=0.05). There was a statistically significant relationship between knowledge and ANC utilization (df=4: p=0.00) while, the relationship between attitude and ANC utilization was also found to be statistically significant (df=1: p= 0.01). Moreover, marital status and residence were found to be significant predictors of ANC utilization.

Conclusion: This study demonstrated that knowledge, attitude, occupation, and education status are statistically significant for ANC utilization. While marital status and residence are significant predictors for ANC utilization

Recommendation: Future research should continue to investigate these relationships in a variety of populations to inform targeted interventions and improve maternal and neonatal health outcomes.

50. Development and validation of context specific components of obstetric violence in Tanzania

Author: **Theresia J. Masoi**, Lilian Teddy Mselle, Stephen M. Kibusi, Nathanael Sirili

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Despite the known repercussions of obstetric violence, studies have encountered challenges in defining and understanding it fully. This difficulty arises from a relative scarcity of research addressing the definition of obstetric violence across various cultural and contextual settings. As a result, there exists a lack of consensus regarding operational definitions of its components, attributed to variations influenced by geographical and cultural factors.

Objective: To describe the development and validation processes of context specific components of Obstetric violence

Methodology: An iterative mixed-methods approach was utilized to develop and validate the contextual components of obstetric violence. Two phases were involved: firstly primary qualitative research and secondly assessing content validity with maternal health experts and face validity with postnatal mothers and health care providers. Descriptive analysis was employed to examine participant characteristics and Likert scale responses from experts.Furthermore,Item-level Content Validity Index (I-CVI) and Item-face Validity Index (I-FVI) were computed for each

Results: After conducting validation procedures, researchers identified ten types of obstetric violence, including physical violence, inadequate care and support, lack of autonomy, non-consensual treatment, privacy violations, sexual violence, discrimination, verbal and emotional violence, and constraints within the healthcare system. Additionally, another form of obstetric violence linked to communities, consisting of six categories such as the forceful use of herbal remedies for hastening delivery, coercive home births, and instances of sexual violence was discovered. The item-level content validity index ranged from 0.791

Conclusion: The findings collected from this research could contribute to establishing a clear understanding of obstetric violence within the Tanzanian context, serving as a valuable resource for future reference. This could aid in verifying measurement techniques and serve as a starting point for creating evidence-backed strategies to lessen obstetric violence and encourage respectful maternity practices.

Recommendation: The contextual components obtained from this study ,can be used in developing measurement tools of Obstetric violence in Tanzania

51. Prevalence and Determinants of Cervical Cancer Screening Among Women in Tanzania: Analysis of Tanzanian Demographic

Authors: **Gladys Reuben Mahiti**, Jovinary Adam, Pankras Luoga

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Globally, cervical cancer(CC) ranks second common malignant tumor among women, posing a significant threat to their health. It is the third leading cause of cancer-related deaths. In developing countries, CC amounts to 84% of new cancer cases and 85% of all cancer deaths. In Tanzania, CC is the foremost type of cancer affecting women. However, CC is a treatable form of cancers, that is why early screening is strongly recommended.

Objective: To determine prevalence and determinants for cervical cancer screening(CCS) among women of reproductive age 15-49 in Tanzania.

Methodology: This study analyzed data from 15,254 women from the Tanzania Demographic and Health Survey 2022. The dependent variable was CCS and independent variables included socio-demographic characteristics. Bivariate and multivariable regression were conducted. A threshold of p-value < 0.05 was applied to determine significance.

Results: The prevalence of CCS in Tanzania is 7% (95% CI: 6.58, 7.93). It was found to be statistically significant among women aged 30-49 years (aOR=3.56, 95% CI=2.75, 4.60), residing in rural (aOR=0.66, 95% CI=0.53, 0.82), with no education (aOR=0.43, 95% CI=0.30, 0.60), lower economic status (aOR=0.49, 95% CI=0.37, 0.66), unemployed (aOR=0.78, 95% CI=0.65, 0.952), married (aOR=1.44, 95% CI=1.11, 1.87), not covered by health insurance (aOR=0.58, 95% CI=0.45, 0.74), living with HIV (aOR=5.72, 95% CI=4.33, 7.56), and those who listened to

Conclusion: The prevalence of CCS among Tanzanian women is generally low at 7%, compared to the WHO recommendation of 70%. Women with no formal education or primary education, belonging to the poorest wealth quintile, and not listening to the radio at least once per week, had lower odds to CCS compared to their counterparts.

Recommendation: Programs aimed at CCS should prioritize activities that improve women's livelihoods, particularly targeting those in lower socioeconomic groups.