

Ministry of Health, Through Tanzania NCDs Prevention and Control Programme, in Collaboration with Muhimbili University of Health and Allied Sciences, and Catholic University of Health and Allied Sciences



Ministry of Health in Collaboration with Muhimbili University of Health and Allied Sciences together with Catholic University of Health and Allied Sciences

ABSTRACT BOOK

The 4th National Non-Communicable Diseases Scientific Conference 2022

THEME:

Enhancing Scalability and Sustainability of Preventive and Integrated, Accessible, Quality Non-communicable Diseases Care in Tanzania.

NOV 10 - 11 | 2022

Malaika Beach Resort

MWANZA - TANZANIA



2022

Ministry of Health in collaboration with Muhimbili University of Health and Allied Sciences together with Catholic University of Health and Allied Sciences



Presents

THE 4TH NATIONAL NCDs SCIENTIFIC CONFERENCE

10TH – 11TH NOVEMBER 2022

MALAIKA BEACH RESORT

MWANZA – TANZANIA

THEME: ENHANCING SCALABILITY AND SUSTAINABILITY OF PREVENTIVE AND INTEGRATED ACCESSIBLE QUALITY NON-COMMUNICABLE DISEASES CARE IN TANZANIA

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History, Conference Goals and Objectives

The burden of Non-Communicable Diseases (NCDs) has exponentially risen in the recent decades globally and has significantly affected both children and adults. Tanzania is no exception. NCDs are largely associated with unhealthy lifestyle including result from sedentary lifestyles and physical inactivity, unhealthy eating practices, excessive consumption of alcohol, and cigarette smoking. Addressing this burden call for evidence driven from locally designed and conducted research. Moreover, owing to wide arrays of risk factors, multi sectoral engagement in the quest to prevent and control NCDs is important.

Realizing the needs for NCDs prevention and control stewardship, in November 2019, Honorable Kassim Majaliwa Majaliwa, Prime Minister of the United Republic of Tanzania launched the National Non-Communicable Diseases Prevention and Control Program as a strategy to bring together different sectors to discuss and recommend measures and collaborate in addressing the burden of NCDs in the country. In addition, he directed to have NCDs week every second week of November as a platform to create awareness on NCDs, conduct screening services, share evidence from research in NCDs, and promote appropriate healthy lifestyle through sports.

National NCDs Scientific Conference as part of important activities during the NCDs week and guided by the annual NCDs theme brings together scientists, health care providers, policy makers and other stakeholders to analyse prevailing situation pertaining to NCDs and their related services. For the past two years, the conference has had resolutions that have recommended feasible strategies to address identified gaps and that will be adopted by respective ministries, sectors and stakeholders.

To prepare this 4th National NCDs scientific conference, the Ministry of Health, through the NCDs Control and Prevention Program has collaborated with the Muhimbili University of Health and Allied Sciences (MUHAS) together with Catholic University of Health and Allied Sciences (CUHAS). The conference is convened at Malaika Beach Resort in Mwanza, Tanzania from 10th to 11th November 2022.

The theme for this year's conference is "**Enhancing Scalability and Sustainability of Preventive and Integrated Accessible Quality Non-Communicable Diseases Care in Tanzania**". Under this theme, the presentations and discussions will be reflective of the following four subthemes:

1. Risk factors and burden of NCDs and related comorbidities; focus for advocacy prevention and stakeholders' engagement strategies
2. Sustainable and scalable integrated care and treatment approaches for NCDs and their related comorbidities
3. Technology and innovative approaches on prevention and treatment of NCDs
4. Mental health hereditary and degenerative diseases; prevention treatment and control

Guest of Honor

The Conference will be officially opened by Honourable Dr. Francis Michael, Permanent Secretary, Ministry of Education, Science and Technology on Thursday, November 10th 2022, at 10:00am.

Organization of the abstract book

This abstract book contains a summary of all presentations (abstracts) that will be presented during the 4th National NCDs Scientific Conference.

The conference discussions will be conducted in form of parallel or satellite sessions and this book is organized into different chapters that are reflective of these sessions.

Conference Organization

The organization of this conference was made possible by individuals from different government and private institutions working through the following units and subcommittees for the conference:

1. Coordination unit
2. Scientific subcommittee
3. Finance subcommittee
4. Logistics and ICT subcommittee.

The following is the list of individuals who facilitated the organization and preparation of the conference including this abstract book.

Prof. Appolinary A.R Kamuhabwa (MUHAS)	Dr. Doreen Mloka (MUHAS)
Prof. Steven Mshana (CUHAS)	Ms. Happy Nchimbi (TANCDCA)
Prof. Andrea B. Pembe VC (MUHAS)	Prof. Emmanuel Balandya (MUHAS)
Prof. Kaushik Ramaiya (TDA)	Dr. Edward Kija (MUHAS)
Prof. Anna Kessy (MUHAS)	Dr. Nyanda Elias Ntinginya (NIMR)
Prof. Domenica Morona (CUHAS)	Prof. Said Kapiga (MITU)
Dr. Mary Mayige (NIMR)	Dr. George PrayGod (NIMR)
Prof. Bruno Sunguya (MUHAS)	Dr. Bakari Salum (PO-RALG)
Dr. Anzibert Rugakingira (MoH)	Dr. Amani Kikula (MUHAS)
Ms. Thandiwe Peter (CUHAS)	Dr. Kasusu Nyamuryekung'e (MUHAS)
Dr. Rachel Nungu (TDA)	Mr. Eric Mutemi (NIMR)
Dr. Emilia Kitambala (MUHAS)	Dr. Sarah Matuja (CUHAS)
Mr. Hamis Kamandwa (MUHAS)	Dr. Elias Nyange
Ms. Gloria Minja (MUHAS)	Ms. Asha Gembe (MoH)

Dr. Ndekya Oriyo (NIMR)	Prof. Jeremiah Seni (CUHAS)
Ms. Leelyan Mrisha	Prof. Andrew Swai (TDA)
Dr. Kasegezya	Dr. Victor Selengia (KCRI)
Dr. Sarah Maongezi (AKHST)	Ms. Rebecca Mkumbwa (MUHAS)
Ms. Nana Mginwa (MUHAS)	Mr. Martin Chekelea (MUHAS)
Dr. Agness Jonathani (MUHAS)	Ms. Valeria P. Milinga (MoH)
Ms. Hellen Mtui (MUHAS)	Prof. Humphrey Mazigo (CUHAS)
Dr. James C. Kiologwe (MoH)	Mr. Shedrack M. Buswelu (MoH)

ORAL PRESENTATIONS

DAY 1

PARALLEL SESSIONS

SUBTHEME: SUSTAINABLE & SCALABLE INTEGRATED CARE

1. Barriers to Follow-Up Care for Childhood Cancer Survivors in Tanzania

Authors: Goodluck Nchasi, Gaudence Ajuaye, Heronima Joas, Francis Karia, David Noyd, Erica Sanga, Kristin Schroeder

Affiliation: Catholic University of Allied Health Science, Bugando Medical Centre, Duke Clinical Research Institute, The University of Oklahoma Health Sciences Center, National Institute for Medical Research, Duke University Medical Center

Background: Global capacity building and targeted interventions have led to significant increases in survival rates for children with cancer in many LMICs. With more patients completing treatment, it is important to extend capacity development to include post-treatment follow-up care to support this vulnerable population. The current study evaluated the current health system's capacity to implement follow-up care guidelines among BMC survivor cohort.

Aim: To determine barriers to follow-up care for childhood cancer survivors in Tanzania.

Methodology: Key stakeholders at BMC completed in-depth interviews to evaluate the current capacity to provide the current best practices off-therapy guidelines. Additionally, data from all patients (<18yo at diagnosis) who completed therapy from 2016-2020 were extracted and analyzed from the established BMC clinical database to develop a childhood cancer survivor cohort. Six key stakeholders completed the IDI. Pediatric specific subspecialty staffing was limited to cardiology only. Psychosocial screening and school assessment were not available. However, with the exception of pulmonary function testing and PET scan, key laboratory and imaging test were available to provide off-therapy monitoring.

Results: In total, 19% (146/762) of all patients registered from 2016-2020 completed therapy and were included in the survivor cohort for further analysis. Within the survivor cohort, the most common diagnoses were Burkitt / Non-Hodgkin lymphoma (29%, n=46), Wilms (25%, n=37) and Hodgkin lymphoma (12%, n=18). A total of 42% (n=61) of patients presented for any off-therapy appointment during the first year, decreasing to 20% (n=30) during the second year.

Conclusion: Basic infrastructure is available in Tanzania to provide most off-therapy screening based on best practice guidelines. However, among patients who completed therapy, compliance is low. To improve survivorship care, additional resources for psychosocial support are needed. Additionally, education for both patients and caregivers on the importance of late effects and the need for continued surveillance may improve compliance and reduce future treatment-associated morbidity.

Recommendation: Parents and caregivers should be educated on the late effects of childhood cancer treatment as well as the need for continued post-treatment follow-up/care

2. Hydroxyurea with Dose-Escalation to Reduce Primary Stroke Risk in Children with Sickle Cell Anaemia in Tanzania: Primary Results of the SPHERE Trial

Authors: Emmanuela E. Ambrose, Teresa S. Latham, Primrose Songoro, Mwesige Charles, Adam Lane, Susan E. Stuber, Abel Makubi, Russell E. Ware, Luke R. Smart

Affiliations: Department of Paediatrics and Child Health, Catholic University of Health and Allied Sciences, Mwanza, Tanzania, Department of Paediatrics and Child Health, Bugando Medical Centre, Mwanza, Tanzania, Division of Hematology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA, Department of Laboratory Science, Bugando Medical Centre, Mwanza, Tanzania, Global Health Center, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA, Department of Internal Medicine, Bugando Medical Centre, Mwanza, Tanzania, Department of Pediatrics, College of Medicine, University of Cincinnati, Cincinnati, Ohio, USA

Background: Sickle cell anemia (SCA) is most prevalent in sub-Saharan Africa where few resources exist to address acute or chronic complications. SCA-related pediatric strokes are especially devastating, and lack of a reliable, affordable, and safe blood supply prohibit implementation of chronic transfusions. Transcranial Doppler (TCD) ultrasound for primary stroke risk assessment coupled with hydroxyurea, escalated to maximum tolerated dose (MTD), to decrease.

Aim: To determine the prevalence of elevated (conditional or abnormal) Transcranial Doppler (TCD) velocities in a cross-sectional analysis of children with SCA living in Tanzania To identify laboratory and clinical correlates of elevated TCD velocities (such as age, haemoglobin concentration, foetal haemoglobin, oxygen saturation, splenomegaly, history of acute chest syndrome, and previous malaria infection) To measure the effects of hydroxyurea therapy on TCD velocities and associated Primary Stroke risk.

Methodology: SPHERE (NCT03948867) is a single center prospective phase 2 open-label trial at Bugando Medical Centre in Mwanza, Tanzania. Local personnel received hands-on TCD training with a super-examiner and completed high-quality exams independently before formal certification. Children with SCA age 2-16 years old were enrolled; previous clinical stroke was an exclusion criterion while recent febrile illness, red cell transfusion, or hospitalization were temporary exclusions. Study participants with maximum Time-Averaged Mean Velocity (TAMV) on TCD exam categorized as conditional (170-199 cm/sec) or abnormal (≥ 200 cm/sec) were offered hydroxyurea with escalation to MTD, while those with normal TCD screening exams were rescreened annually. Hydroxyurea commenced at ~ 20 mg/kg/day using 500 mg capsules, then escalated every 8 weeks by 5 mg/kg/day to a maximum of 35 mg/kg/day based on lab parameters. Children were seen monthly during dose escalation and quarterly after reaching MTD. The primary study endpoint was change in TCD velocity after 12 months of hydroxyurea.

Results: From April 2019 to April 2020, a total of 202 children underwent TCD screening; 196 with confirmed SCA were included in intention-to-treat analysis. The average age (mean \pm SD) at enrollment was 6.8 ± 3.5 years, and 53% were female. Most children had documented clinical severity including painful vaso-occlusive episodes (93%), malaria (88%), transfusion (68%), and hospitalization (91% overall, 30% with >5 hospitalizations). Baseline labs included hemoglobin

= 7.8 ± 1.3 g/dL, hemoglobin F (HbF) = 9.3 ± 5.4 %, and ANC = $5.5 \pm 2.4 \times 10^9$ /L. TCD at enrollment included 75% normal, 24% elevated (22% conditional, 2% abnormal), and 1% inadequate exams. The average TAMV was 138 ± 18 cm/sec (median 140, IQR 129-151) for 147 children in the normal category, and 182 ± 12 cm/sec (median 178, IQR 174-188) for 47 children with elevated velocities. A total of 45 successfully initiated hydroxyurea treatment, as 1 withdrew and 1 died before treatment. The starting dose was 20.2 ± 1.4 mg/kg/day and escalated to 27.4 ± 5.1 mg/kg/day at Month 12. Hemoglobin increased to 9.2 ± 1.0 g/dL, HbF rose to 24.1 ± 7.6 %, and ANC declined to $3.6 \pm 2.6 \times 10^9$ /L. The 12-month TCD was obtained in 43/44 children with average TCD velocity of 149 ± 27 cm/sec, with an average decline of 35 cm/sec. The stroke risk category changed from 43 conditional and 2 abnormal at baseline to 35 normal, 6 conditional and 1 abnormal at Month 12. A higher hemoglobin, higher oxygen saturation, and lower ANC at 12 months correlated with a reduction in TCD value, but none were statistically significant. Adverse events during 12 months of therapy were decreased and no clinical strokes were recorded.

Conclusion: Tanzania have a high baseline risk for primary stroke in sickle cell population; Hydroxyurea treatment starting with a moderate dose and prompt escalation to MTD significantly lowers TCD velocities; Hydroxyurea at MTD reduces the primary stroke risk. As hydroxyurea access expands to more children with SCA in Tanzania, TCD screening and hydroxyurea treatment at MTD can maximize stroke prevention strategies.

3. Tackling the Hidden Epidemic of Non-Communicable Diseases in Rural Tanzania: An Observational Study

Authors: Victor Zablón Urió, Andrew Katende, Ally Olotu, Robert Ndege, Kafuruki Shubis, Victor Myovela, Maja Weisser, Daniel Paris, Martin Rohacek, Thomas Zoller

Affiliation: Ifakara Health Institute

Background: The burden of non-communicable diseases (NCD) is rising globally. More than three quarters of deaths due to NCDs occur in low-and-middle income countries. A comprehensive and sustainable approach for promoting awareness, screening, early detection, treatment and follow up is evidently more than needed to fight against NCDs in both rural and urban settings of Tanzania.

Objective: This project aims to lower the morbidity and mortality burden associated with heart and lung diseases among people living in Kilombero, Ulanga and Malinyi districts in line with achieving the United Nations Sustainable Development Goals (SDG's).

Methodology: This is a prospective study that set up a specialized heart and lung disease clinic located within St Francis Referral hospital, Ifakara, Morogoro. This unit offers specialized level care to both in and outpatients with heart and lung diseases, diagnostics including echocardiography (ECHO), 24-hr blood pressure monitoring, 24-hr electrocardiography, point of care INR, lung ultrasound and spirometry. All patients diagnosed with chronic heart and lung diseases are voluntarily asked to join an open cohort where they are followed up subsequently. Social demographic and clinical data are collected at baseline and follow up visits respectively. All data are captured using an electronic database, REDCAP. Enrollment is also done through

community outreach programs conducted once every month. Regular trainings to health care workers in respiratory and cardiovascular medicine is conducted both online and on site.

Results: From January 2021 to March 2022, we have screened 2144 patients, performed 1461 ECHOs and 53 spirometry tests. Out of all these 177 participants were eligible and enrolled in the cohort. Majority were female 100 (56.6%), the median age 54.6 IQR (37.3-67.2), and married 121(68.4%). Majority had primary school education 119(67.2%) and had irregular income 118(66.7%). Majority have never smoked, 138(78%), 34(19.2%) use alcohol and among those 20(58.8%) had alcohol abuse. Most of the patients received outpatient care 162(91.5%). The overall prevalence of Hypertension was 87 (48.4%). While a third 67(37.9%) of participants previously had a cardiovascular diagnosis only 62(35.0%) were on medication, similarly 23(13%) had a previous respiratory diagnosis but 6(3.4%) were on medication. The most common diagnosis was dilated cardiomyopathy 103(58.2%) followed by Post Pulmonary TB lung disease, 13 (7.3%).

Conclusion: Chronic cardiovascular and respiratory diseases remain prevalent and under-diagnosed in rural settings due to lack of a comprehensive health systems to enhance early detection, awareness and offer chronic care to those already diagnosed.

Recommendation: Non communicable diseases in rural Tanzania needs a multidisciplinary approach to promote awareness, knowledge transfer and case management meant for chronic disease care model.

4. The Feasibility and Acceptability of Screening for Hypertension in Private Drug Retail Outlets: A Pilot Study in Mwanza Region, Tanzania

Authors: Denna Michael, Dotto Kezakubi, Adinan Juma, Jim Todd, Hugh Reyburn, Jenny Renju

Affiliation: National Institute of Medical Research, Mwanza, Tanzania, Kilimanjaro Christian Medical University College, Department of Epidemiology and Biostatistics, Moshi, Tanzania, The London School of Hygiene and Tropical Medicine, Keppel Street, London, UK

Background: Hypertension is a major contributor to ill health in sub-Saharan Africa. Increasing access for hypertension screening is necessary for many sub-Saharan countries. This study assesses the feasibility and acceptability of using private sector drug retail outlets to screen for hypertension in Mwanza region, Tanzania.

Aim: To determine whether private drug retail outlets would be a feasible and acceptable venue to screen individuals for hypertension and subsequently direct them to proper care and treatment.

Methodology: A pilot study took place in eight drug retail outlets from August 2013 to February 2014. Customers aged ≥ 18 years were invited for screening. Socio-demographic characteristics, hypertension knowledge, hypertension screening and treatment history were collected. Subjects with systolic blood pressure over 140 mmHg were referred for follow up. Referral slips captured

attendance. Mystery client visits and follow up phone calls were conducted to assess service quality.

Results: A total of 971 customers were screened, one person refused; 109 (11.2%) had blood pressure over 140/90 mmHg and were referred for ongoing assessment; 85/109 (78.0%) were newly diagnosed. Customers reported that the service was acceptable. Service providers were able to follow the protocol. Only 18/85 (21%) newly diagnosed participants visited the referral clinic within two weeks.

Conclusion: Blood pressure screening was feasible and acceptable to customers of private drug retail outlets. However, many who were referred failed to attend at a referral centre and further research is needed in this area.

Recommendation: Hypertension screening service at private drug outlets might be a Low cost and scalable intervention needed to improve access to prevention, identification and treatment for chronic hypertension

5. Management of Non-Communicable Diseases among People Living with HIV in Tanzania: A Public Health Report

Authors: Immaculata Kessy, Hannah Watterson, Joel Francis

Affiliation: Global Programs Tanzania, affiliate of University of California San Francisco

Background: Anti-Retroviral Treatment (ART) has brought a global revolution by transforming the natural history of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) from an acute and lethal disease to a chronic disease with a longer life expectancy and an increased risk of developing NCDs due to HIV disease progression, ART side effects, or old age. This report gives an overview of integrated NCD/HIV care delivery in Tanzania.

Aim: To review the integrated management of NCDs among PLHIV in Tanzania

Methodology: A review of peer-reviewed articles published from 2003-2021 as well as grey literature was carried out.

Results: There were 29 pieces of evidence discovered, including 19 peer-reviewed articles, 9 policy documents and guidelines, and 1 web page. Among the pieces of evidence examined, the following were the findings: 4 studies revealed low awareness of the increased risk of NCDs among PLHIV, 5 studies revealed low training and knowledge of healthcare providers in the overall management of HTN and DM, and 2 studies revealed a low frequency of supportive supervision in HIV clinics. Six pieces of evidence revealed low availability of diagnostic equipment and tests also low availability and frequent stock-outs of HTN and DM medications, particularly at public and primary healthcare facilities. There was limited evidence in the provision of integrated HIV/NCD care and inadequate health system's mitigating efforts in integrated HIV/NCD care delivery.

Conclusion: In Tanzania, there is limited evidence on integrated HIV/NCDs care delivery, health system challenges that necessitate robust research, strong leadership, collaborative efforts, and the application of implementation science to achieve evidence-based integration to improve service quality, availability of essential diagnostic tests, combat medicine stock-outs, and enhance human resource for health.

Recommendation: Proper planning and system thinking in resource mobilization and integration with more focus on all public and primary health care facilities to improve accessibility to affordable NCDs' services among PLHIV.

6. Healthcare provider perspective on barriers and successes in the care of pediatric injury patients at a tertiary hospital in Northern Tanzania

Authors: Getrude Nkini, Kajsja Vlastic, Elizabeth M. Keating, Francis Sakita, Ismail Amiri, Bryan Young, Jenna Birchall, Melissa H. Watt, Catherine A. Staton, Blandina T. Mmbaga

Affiliation: Kilimanjaro Christian Medical Centre

Background: Pediatric injuries are a leading cause of morbidity and mortality in low- and middle-income countries (LMICs). The recovery of injured children in LMICs is often impeded by barriers in accessing and receiving timely and quality care at healthcare facilities.

Objective: To identify the barriers and the successes in pediatric injury care at Kilimanjaro Christian Medical Center (KCMC), a tertiary zonal referral hospital in Northern Tanzania.

Methodology: In this study, focus group discussions (FGDs) were conducted by trained interviewers who were fluent in English and Swahili in order to examine the barriers and successes in pediatric injury care. Five FGDs were completed between February 2021 to July 2021 composing of 30 healthcare providers from the emergency department, burn ward, two surgical wards, and pediatric ward. De-identified transcripts were analyzed through a team-based, thematic approach informed by applied thematic analysis with qualitative memo writing.

Results: Barriers that impeded care included delays in presenting for care, personnel shortages, lack of pediatric training among healthcare providers, absence of locally relevant pediatric-specific injury care guidelines, limitations in resources such as medications or equipment, delays in transferring between wards, and cultural and financial barriers of the patient's caregivers which limited the providers' ability to provide timely and quality care. Successes were found in the strong teamwork of the healthcare providers, more resources available at KCMC than other health facilities in the region and prioritizing injured children when they arrive at KCMC.

Conclusions: These FGDs were able to highlight barriers and successes that could lead to interventions to improve the care of pediatric injury patients in Northern Tanzania such as increasing personnel trained in pediatric injury, the development of pediatric injury care guidelines, and focusing on improving access to at home and follow-up care.

Recommendations: We recommend interventions to improve the care of pediatric injury patients in Northern Tanzania including increasing personnel trained in pediatric injury, the

development of pediatric injury care guidelines, and focusing on improving access to at home and follow-up care.

7. Assessment of Glycaemic Trends in Patients with Pulmonary Tuberculosis in Tanzania

Authors: David Magombola, Julieth Lalashowi, Elimina Siyame, Willyhelmina Olomi, Abhishek Bakuli, Olena Ivanova, S. Charalambous, Andrea Rachow, Issa Sabi, Nyanda Elias Ntinginya, The TB sequel consortium

Affiliation: Mbeya Medical Research Centre, National Institute for Medical Research, Division of Infectious Diseases and Tropical Medicine, Medical Centre of the University of Munich, Munich, Germany, German Center for Infection Research, Partner Site Munich, Germany, The Aurum Institute, Science, Parktown Johannesburg, South Africa

Background: Tuberculosis (TB) continue to be a threat claiming about 1.3 human lives in 2020. One in every 22 people in Africa live with Diabetes Mellitus (DM), and by 2045 the number is expected to reach 55 million. A causal relationship has been well established between TB and DM as diabetes increases the risk of TB, and glucose intolerance has been shown to occur in TB patients.

Aim: We aimed to assess the proportion of the pulmonary TB patients with persistent hyperglycaemia at the end of treatment and 6 months post treatment completion.

Methods: This was a secondary analysis of data of patients in a prospective cohort study to evaluate the long-term complications of TB among patients with pulmonary TB. From 2017 to 2019, adults 18 years and above in Mbeya and Songwe regions in Tanzania were enrolled. Glycated haemoglobin (HbA1c) levels were recorded at baseline, and at month 6 and 12 from the time of TB diagnosis, respectively. Known DM patients were excluded from this analysis.

Results: A total 60 participants were included in this analysis. The mean age was 35 years, 38 (63.3%) were males, and 27 (45%) were HIV positive. Using a cut off $\geq 6.5\%$, 14 (23.3%) had elevated HbA1c at TB treatment initiation with the median glycated hemoglobin of 7.6% (IQR 7.0–8.8). Of those 5 (35.7%) and 1 (7.1%) remained with elevated HbA1c at month 6 and month 12, respectively. In participants who had normal HbA1c levels at baseline, 8/46 (17.4%) had elevated HbA1c at Month 12. Age had significant association with elevated glycemic level at month12.

Conclusion and recommendations: TB induced hyperglycaemia is transient and resolves after treatment, however, there is a need to follow the glycaemic levels of patients even after treatment to detect those who remain hyperglycaemic or those who become hyperglycaemic at later time points.

8. Burden and Correlates of Atrial Fibrillation among Hypertensive Patients Attending a Tertiary Hospital in Tanzania

Authors: Smita Bhalia, Pedro Pallangyo, Mohamed Janabi

Affiliation: Jakaya Kikwete Cardiac Institute

Background: Atrial fibrillation (AF) is the most common cardiac arrhythmia, which presents with variety of clinical symptoms. Hypertension increases risk of developing Atrial fibrillation by 1.5-fold. Together Atrial fibrillation and hypertension doubles the risk of morbidity and mortality.

Aim: To determine the prevalence of AF and describe associated factors among hypertensive patients attending tertiary hospital in Tanzania.

Methodology: A cross-sectional hospital-based study, involving 391 hypertensive patients visiting JKCI and MNH in Dar es Salaam was conducted between October to December 2017. Categorical variables were analyzed using chi square while student t- test was used to analyze continuous variables. Multivariate logistic regression analysis was performed to determine factors associated with AF. All analysis was two sided and p- value of < 0.05 was used to be not significant.

Result: AF was detected in 40 patients (10.23%). AF was associated with BMI \geq 25 (OR 4.4, 95% CI 1.1-7.7, p - value 0.02), ejection fraction 40mm (OR 9.4, 95% CI 2.1- 43.2, p-value <0.01) and eGFR <60 (OR 2.9, 95% CI 1.1- 7.8, p - value 0.04).

Conclusion: Atrial Fibrillation is considerably prevalent among hypertensive sub- population.

Recommendation: Prompt diagnosis and timely management is vital to prevent complications and premature mortality.

SUBTHEME: MENTAL HEALTH

1. Prevalence of depression, suicidal ideation and associated risk factors among adolescents with HIV/AIDS at KCMC

Authors: Editruda Gamassa

Affiliations: Kilimanjaro Christian Medical Centre, Muhimbili University of Health and Allied Sciences

Background: Most of the HIV disease burden is found in SSA. Approximately 81,000 adolescents in Tanzania live with HIV/AIDS. There is bidirectional relationship between HIV infection and mental illness. Adolescents living with HIV/AIDS are more at risk of suffering from depression and suicidal ideation than their unaffected peers. Factors such as social demographics, poor social support, HIV clinical factors and HIV related stigma are found to be significant.

Aim: We assessed prevalence of depression, suicidal ideation and associated risk factors among adolescents with HIV/AIDS.

Methodology: A cross-sectional survey was done between February and April 2021. A total of 170 adolescents aged between 10 - 19 years were sampled and recruited in the study. Standard questionnaire measured socio-demographic characteristics. Patient health questionnaire – adolescent version (PHQ-A), HIV Stigma Scale (Berger scale), Multidimensional Perceived Social

Support Scale (MPSS) measured depression, stigma and social support respectively. Chi square test measured association between the depression and the predictors of interest. Bivariate and multi variate analysis and alpha was set at 0.05.

Results: Just above a half (56.5%) of participants were females. Mean age of was 15.06 (SD=2.20), range 10-19 years. The prevalence of depression and suicide ideation were 15.9% 31.2% respectively. Participants with low levels of hope were more likely to report having depression (AOR, 9.21, 95% CI: 2.16-39.32) and suicidal ideation (AOR, 3.84, 95% CI: 1.50-9.84). Participants with high levels of stigma were more likely to report having suicidal ideation (AOR, 2.7, 95% CI: 1.01-7.37).

Conclusion: This study reveals that about a third and 15% of adolescents living with HIV and AIDS reported having suicide ideation and depression respectively. High levels of stigma and low perception of hope were found be to the risk factors associated with depression and suicidality.

Recommendations: Further studies to be done to evaluate mental health of adolescents living with HIV and AIDS. Mental health services should be integrated in the care and treatment centers providing services to adolescents. Mental health screening services and early intervention should be strengthened in care and treatment clinics.

2. Prevalence and Predictors of Post-Stroke cognitive impairment among patients with the first stroke admitted at tertiary hospitals in Dodoma, Tanzania

Authors: Baraka Alphonse, John Meda, Azan Nyundo

Affiliation: Department of Internal Medicine, School of Medicine & Dentistry, University Dodoma, , Tanzania, Department of Internal Medicine, The Benjamin Mkapa Hospital, Dodoma, Tanzania, Department of Psychiatry and Mental Health, School of Medicine, University Dodoma, Dodoma, Tanzania, Department of Cardiology, The Benjamin Mkapa Hospital, Dodoma, Tanzania, Division of Psychiatry, Department of Internal Medicine, The Benjamin Mkapa Hospital, Dodoma, Tanzania

Background: Post-stroke survivors are at significantly higher risk of developing cognitive impairment that impacts their quality of life, their families, and the community; however, inadequate attention is given.

Aim: This study aims to determine the prevalence and predictors of post-stroke cognitive impairment (PSCI) among adult stroke patients admitted to a tertiary hospital in Dodoma, Tanzania.

Methodology: The study was a prospective longitudinal study conducted at referral hospitals in the Dodoma region, central Tanzania. A sample of 158 adults with a verified first stroke by brain CT/MRI were recruited. At baseline, social-demographic, cardiovascular risks and stroke characteristics were documented. PSCI was evaluated by Montreal Cognitive Assessment (MoCA) at 30 (baseline) and 90 days, while associated neuropsychiatric factors including depression and apathy were assessed using Personal Health Questionnaire (PHQ-9) and Apathy Evaluation Scale (AES > 38), respectively. Socio-demographic and clinical profiles including age, sex, type and

severity of a stroke, and comorbid medical illness were identified at baseline. Continuous data were summarized as Mean (SD) or Median (IQR), and categorical data were summarized using proportions and frequencies. Univariate and multivariate logistic regression analysis were used to determine predictors of PSCI.

Results: Of 158 participants, the mean age was 58 (IQR: 15) years, 57.2% were female, and the prevalence of post-stroke cognitive impairment at one and three months was 80.4% and 51.7%, respectively. There was a significant improvement in cognition among 83.7% of the participants at three months. The multivariable logistic regression showed significant association between PSCI and increase in age (AOR: 1.153, CI: 1.088-1.222, $p < 0.001$), seven years or less of formal education (AOR: 12.775, CI: 8.472-22.653, $p < 0.001$) and depressive symptoms (AOR: 7.734, CI: 1.359-44.921, $p = 0.021$). While increase in age (AOR: 0.896, CI: 0.851-0.943, $p < 0.001$), and female gender (AOR: 0.896, CI: 0.851-0.943, $p < 0.001$) were independent predictors of no cognitive improvement at three months.

Conclusion: In this study, PSCI is prevalent, and four out of five survivors of early PSCI demonstrated cognitive improvement.

Recommendation: Profiling at-risk stroke survivors in a timely intervention may improve their prognosis. Future studies in a similar context may exclude premorbid dementia and assess PSCI using a neuropsychological battery test.

3. Quality Of Life among Out-Patients with Long-Term Indwelling Urinary Catheter Attending Urology Clinic at A Tertiary Hospital in Northwestern Tanzania

Authors: Asteria L. M. Ndomba, Rose M. Laisser, Eveline T.Konje, Vitus Silago, Joseph R. Mwanga, Stephen E. Mshana

Affiliation: Catholic University of Health and Allied Sciences

Background: This study aimed to determine quality of life (QoL) among patients living with long-term indwelling urinary catheter (IUC) at home in Northwestern Tanzania. To the best of our knowledge for the first time in Africa, we report on quality of life for patients living with a long-term IUC at home

Aim: To determine QoL among patients living with long-term IUC at home in Northwestern Tanzania.

Methodology: This was a descriptive cross-sectional study conducted between December 2016 and September 2017. A total of 202 out-patients aged 18 years and above living with a long-term IUC were conveniently recruited. The QoL was determined using WHOQOL-BREF tool. Quantitative data were entered into Microsoft Excel for cleaning and coding, then into STATA software version 13.0 for analysis

Results: Median age of participants was 69 (IQR 61–77) years. Majority of participants were males (195, 96.5%), married (187, 92.6%), and having primary education (116, 57.3%).

Generally, the QoL was poor in all the domains: mean score for physical health being 36.67 ± 0.89 , psychological 29.54 ± 0.87 , social relationship 49.59 ± 1.61 , and environment 26.05 ± 0.63 . Married participants were slightly better under social domain 51.1 ± 1.6 than singles 31.1 ± 5.4 ; P-value 0.001. Those with primary education & above were slightly better in environmental domain 26.1 ± 0.7 than those with no formal education 23.5 ± 1.5 ; P-value 0.039.

Conclusion: Those with primary education and above, the married were slightly better in environmental and social domains.

Recommendations: Improved social economic status and close follow up for the married living with long-term IUC.

4. Assessment of Prevalence of Somatoform Disorders among Patients Attending Medical Clinic at Benjamin Mkapa Hospital Medical Clinic, May-June 2022

Authors: Alhaji Maya, Jafari Hamisi, Faith Mapanje, Valeria Msigwa, Kelvin Katunzi

Affiliation: The University of Dodoma

Background: Somatoform disorders are mental disorders where there is somatic symptom which is associated with distress (abnormal thoughts, feelings and behavior) and impairment in response to the somatic symptom, Patients with somatoform disorders visit different specialist clinics rather than psychiatry clinic and usually termed as patients with medically unexplained symptoms, this leads to frequent hospital visits and recurrent investigations without definition.

Aim: Assessment of the prevalence of somatoform disorders among patients attending medical clinic at BMH hospital.

Methodology: The study was a hospital based descriptive cross sectional study design done at BMH medical clinic conducted from May to June 2022, with a sample size of 167 participants who were selected by simple random sampling and Kobo toolbox online based questionnaire equipped with PHQ-15,SSS-8 and SSD-12 was used for data collection. And analysis done by SPSS v20 software, where descriptive analysis was used to determine the prevalence and Pearson Chi-square test was used to determine factors associated with somatoform disorders.

Results: The prevalence of somatoform disorders at BMH medical clinic was found to be 16.8% with headache as the most common presenting somatic symptom with the prevalence of 58.8%, and significant association between somatoform disorders with age, and level of education of participant was seen.

Conclusion: somatoform disorders are present but possibility of other comorbid or mental disorder should not be excluded.

Recommendation: Screening of somatoform disorders is required in order to identify the patients for proper management which will also help reduce burden in the health care.

SUBTHEME: RISK FACTORS

1. Predictors of 30-Day Mortality among Stroke Patients Admitted at A Tertiary Teaching Hospital in Northwest Tanzania: A Prospective Cohort Study

Authors: Sarah Shali Matuja, Gilbert Mlay, Fredrick Kalokola, Patrick Ngoya, Jemima Shindika, Lilian Andrew, Joshua Ngimbwa, Rashid Ali Ahmed, Basil Tumaini, Khuzeima Khanbhai, Reuben Mutagaywa, Mohamed Manji, Faheem Sherif, Karim Mahawish

Affiliation: Department of Internal Medicine, Catholic University of Health and Allied Sciences, Mwanza, Tanzania, Department of Internal Medicine, Bugando Medical Centre, Mwanza, Tanzania, Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, United States, Department of Internal Medicine, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania, Department of Cardiology, Jakaya Kikwete Cardiac Institute, Dar es Salaam, Tanzania, Department of Neurology, Texas Tech University Health Sciences Center, Paul L Foster School of Medicine El Paso, Texas, United States, Department of Internal Medicine, Midcentral District Health Board, Palmerston North, New Zealand

Background: Globally stroke is the 2nd leading cause of death with highest mortality in Low-middle-income countries particularly in sub-Saharan Africa.

Aim: We aimed to investigate the predictors of 30-day mortality among stroke patients admitted at a tertiary teaching hospital in Northwestern Tanzania." We aimed to investigate the predictors of 30-day mortality among stroke patients admitted at a tertiary teaching hospital in Northwestern Tanzania.

Methodology: This cohort study recruited patients with a World Health Organization clinical definition for stroke. Baseline data and post-stroke complications were recorded. Head CT-scan and a 12-lead electrocardiography was performed. The National Institutes of Health Stroke Scale (NIHSS) and modified Rankin Scale (mRS) were used to assess stroke severity and outcomes respectively. Kaplan-Meier analysis was used to describe survival and Cox-proportional hazards model was used to examine predictors of mortality.

Results: A total of 135 patients were enrolled with a mean age of 64.5 years. The overall 30-day mortality was 37%. Comparing patients with hemorrhagic and ischemic stroke, 25% experienced mortality by day 5 (25th percentile survival time (in days): (95% CI: 2-14) vs day 23 day (25th percentile survival time (in days): (95% CI: 11-30) (Log-rank $p < 0.001$) respectively. Aspiration pneumonia was the leading medical complication, seen in 41.3%. ECG changes were observed in 54.6% vs 46.9% of patients with hemorrhagic and ischemic stroke respectively. The most common ECG patterns were: ST changes 29.6% vs 30.9%, T-wave inversion 34.1% vs 38.3% and U-waves 18.2% vs 1.2% in hemorrhagic and ischemic stroke respectively. Independent predictors for mortality were: mRS score (4-5) {aHR 5.50 (95% CI:2.02-15.04)}, aspiration pneumonia {aHR 3.69 (95% CI:1.71-13.69)}, ECG changes {aHR 2.28 (95% CI:1.86-5.86)} and stroke severity {aHR 1.09 (95% CI:1.02-1.17)}.

Conclusion: Stroke is associated with a high 30-day mortality in Northwestern Tanzania.

Recommendation: Concerted efforts are warranted in the prevention and management of stroke patients with special attention to individuals with severe strokes, ECG changes, and swallowing difficulties in order to reduce early morbidity and mortality.

2. Factors Influencing the Uptake of COVID-19 Vaccine among Patients with Type 2 Diabetes in Kenya and Tanzania: A Mixed-Methods Study

Authors: Peter Binyaruka, Irene Mashasi, Caroline Karugu, Lyagamula Kisia, Gershim Asiki, Sally Mtenga

Affiliation: Ifakara Health Institute, Dar es Salaam, Tanzania, African Population and Health Research Center, Nairobi, Kenya.

Background: COVID-19 pandemic has a devastating impact on social, health and economic welfare. COVID-19 and type 2 Diabetes (T2D) are a deadly combination. Vaccination has the potential to improve outcomes, but vaccine hesitancy remains a major concern.

Aim: We aimed to examine vaccination levels and factors influencing uptake of COVID-19 vaccination among patients with T2D in Kenya and Tanzania.

Methodology: We conducted a mixed-methods study. About 1000 adult patients with T2D were surveyed in Kenya and Tanzania, together with 21 and 25 in-depth interviews, respectively. Multivariate logistic regression used to analyse determinants of COVID-19 vaccine uptake. Qualitative data analysed thematically.

Results: Vaccination uptake was higher in Kenya (75%) than in Tanzania (26%) by February 2022. Odds of receiving COVID-19 vaccine fourfold greater in those with college/ university education OR=4.25, CI: 1.00-18.03, $p<0.05$) in Kenya and OR=4.07, (CI: 1.03-16.12, $p<0.05$) in Tanzania; and increased by 7% in Kenya (OR=1.70, CI: 1.07-2.70, $p<0.05$) and 81% in Tanzania (OR=1.81, CI: 1.04-3.13, $p<0.05$) for patients with health insurance. Vaccine uptake also increased significantly among older patients in Kenya, and among patients with increased number of comorbidities in Tanzania. Study participants reported that protection from severe illness and the influence of the government and religious leaders influenced vaccine uptake; while fear/ concerns of the vaccine side effect, safety and quality, also different political views on vaccines, myths and misinformation limited COVID-19 vaccine uptake.

Conclusion: COVID-19 vaccine uptake by people with T2D remains suboptimal, especially in Tanzania. Higher education level and health insurance associated with higher uptake in both countries.

Recommendation: Policy makers must develop strategies to improve health education on COVID-19 vaccination among T2D population, especially those with chronic illness, multimorbidity, uninsured, less educated, younger and poorer.

3. Lifestyle intervention in patients with abnormal adiposity and type-2-diabetes (LIPAD) to create T2D remission in Tanzania

Authors: Omary Chillo, Fedrick Mashili, Abel Makubi, Marina Njelekela, Juan Pablo, Kaushik Ramaiya

Affiliation: Department of Physiology, Muhimbili University of Health and Allied Sciences

Background: The control of type 2 diabetes (T2D) in developing countries is challenging due to financial constraints, limited human resources, and fragmented healthcare systems. The preferable solution will be a culturally acceptable cost-effective lifestyle modification.

Aim: The study aims to determine if the approach of a low-calorie diet as a lifestyle intervention in patients with T2D to create T2D remission in Tanzania.

Methodology: LIPAD study is a feasibility intervention that determine the impact of locally customized low energy diet on T2D within 9 months. Diagnosed T2D of duration 0-3 years based on HbA1c test (>6.5% if on diet alone or >6.1 if on treatment with oral hypoglycemi) and BMI of >27 kg/m² and <45kg/m² will be introduced with 850 kcal for first 12 weeks and then gradually increase based on body weight. Blood glucose monitoring will be done after every 3-month using standard HbA1 tests. Physical activity questionnaires will be used, BMI and Blood pressure measurements will be taken to all study participants.

Results: The first part of the feasibility study will measure the implementation process outcome based on Ebola Proctor framework (acceptability, feasibility, costs, and sustainability). The primary outcome will be weight reduction of more than 10-15% of the body weight and the secondary outcome is remission of type-2-diabetes defined by HbA1c less than 6.5% after six months of intervention study.

Conclusion: Intensive lifestyle intervention would result in considerable weight loss and improved glycemia in patients with abnormal adiposity and type-2-diabetes of early onset.

Recommendations: Patients with early onset type-2-diabetes can create remission of the disease by modifying their calorie intake.

4. Ocular Symptoms and Associated Factors among Hairdressers in Kinondoni Municipality, Dar es Salaam, Tanzania

Authors: Baldwina Tita Olirk, Ezra Jonathan Mrema, Simon Mamuya

Affiliation: Occupational Health and Safety Department, Muhimbili National Hospital

Background: Hairdressers are exposed to chemicals from hair products including hair dyes, glues, sprays, and relaxants, which increase risks for ocular diseases. Limited studies assessing ocular diseases among hairdressers exist in Tanzania. Study findings will enable revision of existing policies and promote appropriate interventions to improve health and safety of hairdressers.

Aim: To estimate the prevalence of ocular symptoms and associated factors among hairdressers in Kinondoni Municipality.

Methodology: This study employed an analytical cross-sectional study design. Data were collected among 300 hairdressers from 157 salons of Kinondoni Municipality. Data on participants' sociodemographic characteristics, years of work experience, occupational activities, protective equipment use, hazard awareness, training on chemicals use, hair products used, and self-reported ocular symptoms were gathered by a structured questionnaire. Descriptive statistics, partial correlation and logistic regression were performed to understand the prevalence of ocular symptoms and association with other study variables.

Results: The study enrolled a total of 300 participants who were primarily female (92%). The mean age (\pm SD) of the participants was 28 (\pm 7) years. The prevalence of ocular symptom was 78.7%. The most prevalent symptoms reported were headache (68.7%) and itching (60.0%). There was a statistically significant association between years of work experience ($r = 0.314$, $p < 0.0001$), lack of training on chemical use [AOR = 0.0203 (0.01 - 0.054)], lack of hazard awareness [AOR = 0.05 (0.02 - 0.094)] and ocular symptoms.

Conclusion: Prevalence of ocular symptoms was high. lack of training, inadequate hazard awareness and work experience associated with ocular symptoms.

Recommendation: The Occupational Health and Safety Authority (OSHA) of Tanzania should conduct health promotion to hairdressers to reduce chemical exposure.

5. Predicted Blood Pressure Responses to Reduced Sodium Diet in Patients with Hypertension

Authors: Benson Issarow, Grace Luselu, Frederick Kalokola, Bahati Wajanga, Robert Peck, Steven Hunt

Affiliation: Mwanza Intervention Trials Unit, Catholic University of Health and Allied Sciences, Weill Cornell Medicine, Bugando Medical Centre

Background: Hypertension is the major driver of cardiovascular disease (CVD) epidemic in low and middle-income countries. People of African ancestry have shown to have more salt-sensitivity. Studies are lacking from Africa. Understanding the role of salt-sensitivity for hypertension in Africa is essential for designing community health interventions to prevent CVD.

Aim: To determine prevalence of salt sensitivity among adults with Stage-1 hypertension at the hypertension clinic.

Methodology: Between March 2018 and December 2018, adult patients attending Bugando Medical Centre hypertension clinic were screened for hypertension twice before consenting to the study. Fifty consecutive confirmed hypertensive adults were enrolled. Those with stage-one hypertension were given a low salt diet. Those with stage-two hypertension were given antihypertensive medications. All participants were followed for 4 months. Twelve-hour urine collections were conducted to understand the contribution of dietary salt.

Results: At baseline, 36 patients with stage-one hypertension were assigned to the low-salt diet protocol and 14 to the treatment protocol. Of the 36 low-salt diet protocol participants, 22 became normotensive on the low-salt diet; 11 required medication treatment and 3 were lost to follow-up. The major predictors for blood pressure response among stage-one hypertensive patients were higher income, higher BMI, lower triglyceride levels, and lower upper arm melanin.

Conclusion: Low salt diet can be effective in controlling blood pressure in Tanzanian adults with stage-one hypertension.

Recommendation: Public-health knowledge should be given on low salt diet to control stage-one hypertension.

6. Data Quality of Selected Diseases and Health Services and its Associated Factors in Primary Healthcare Facilities in Dodoma Tanzania

Authors: Salama Mshana, Lenard Katalambula, Selestine Ngoma

Affiliation: University of Dodoma

Background: In general, Tanzania's health system continues to struggle with poor data quality, and primary healthcare facilities are not exempted. In order for health facilities to obtain, analyze, and submit data to the Ministry of Health through the Health Information System, MoH supports them by providing training, mentoring, and data collection tools. Despite all of these efforts, it is still difficult to obtain the quality data.

Aim: Aim of the study is to assess data quality of selected diseases and health services and its associated factors in public primary healthcare facilities in Dodoma region.

Methodology: Cross-sectional study with quantitative approach was conducted whereby 126 facilities were assessed in Dodoma Region. A retrospective desk review method was used to assess data quality based on dimensions of completeness, consistency and timeliness for 3 months from the source documents and monthly reports generated routinely. Observational checklist was used to assess organizational and technical while interview administered questionnaire was used to assess behavioral factors. Descriptive statistics was presented in frequency count and percentage and logistic regression was used to look for association between variables. P-values of less than 0.05 at 95% CI was considered statistically significant.

Results: A total of 126 facilities participated in the study. Overall average data quality was 74.6%. Completeness, consistency and timeliness of report were 61.5%, 91.7%, 66.7% respectively. Results also indicate that organizational factors such as supportive supervision [AOR= 1.29,95% CI (1.14,1.46), training of staff [AOR =1.35,95% CI (1.03,1.77)], resource availability [AOR=3.77, 95% CI (1.11,12.84)] were significant factors for data quality. Moreover, on technical factors, the availability of data collection tools [AOR=1.04, 95% CI (1.04,1.22)] and software for data quality check [AOR=1.18, 95% CI (1.13,1.23)] were the significant factors for data quality. Furthermore, attitude [AOR= 1.33 95% CI (1.04,1.43)] and motivation [AOR= 1.23 95% CI (1.19,1.29)] towards

the whole process of data generation were seen to significantly influence data quality on behavioral factors.

Conclusion: The study reports that the overall data quality was low. Factors that were seen to influence the quality of data were the organizational, technical and behavioral factors as per the study findings.

Recommendation: The study recommends that supportive supervision should be done across all department, up to date trainings, human resource should be made available at all facilities at the recommended time and period also data collection tools should be made available when needed and staff should be well-motivated on the importance of data thus to improve their attitude and enhance the generation of quality data.

7. Challenges and Opportunities for Policy Use on Prevention of Overweight and Obesity in Tanzania

Authors: Hoyce Amini, Adeline Munuo, Luitfrid Nnally, Dynes Kejo, Joyce Ngegba, Magreth Benjamin, Juliet Shine, Ray Masumo, Gladys Mahiti, Bruno Sunguya, and Germana Leyna

Affiliation: Tanzania Food and Nutrition Center, Dar es Salaam, Tanzania, United Nation Children Fund, Dar es salaam, Tanzania, Sokoine University of Agriculture, Morogoro, Tanzania, Muhimbili university of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: Globally, there has been a significant increase in the prevalence of obesity among individuals and half of the global population is expected to be affected by 2030. This in turn is linked with a high risk of chronic health conditions such as diabetes, hypertension, and certain cancers. Little is known about the policies and regulations that address the problem of overweight and obesity in Tanzania.

Aim: The study aimed at assessing the current policies and legislations towards the implementation of preventive measures against obesity in the country.

Methodology: The study employed a qualitative data collection method whereby information on the existing policies, regulations, and strategies for the prevention of overweight and obesity were reviewed by Key Informant Interviews. Dar-es-Salaam and Dodoma were purposively selected for the study. A landscape analysis tool was used to identify and analyze information on policies, legislations, standards, and programmes relevant to overweight/obesity prevention. Furthermore, 22 key informants were selected from the government officials and development partners for interview. The information gathered from the KII was analyzed using NVivo software.

Results: The majority of the 22 key informants were 25 years and above while 14 were females. The majority (20/22) of the participants had attained a bachelor's degree and above. Findings from KII highlighted a lack of information systems to collect and document data on overweight and obesity and inadequate institutional arrangements at national and local authority levels for tackling nutrition issues, as well as limited budget, and human resources as challenges in

addressing the problem of overweight and obesity. The review identified limited policies and programmes to promote healthy lifestyles or discourage producers of unhealthy foods, and a lack of concrete policies and programmes to promote and support active lifestyles and physical activity as among the challenges. Furthermore, there were few plans and strategies at the national level, few regulations, and enforcement making it hard for local authorities to translate policy into realistic and actionable plans with sustainable results.

Conclusion: Population-wide policies and strategies to prevent overweight and obesity are scarce in the country.

Recommendation: This study highlights the need to prioritize and invest in developing, implementing, and strengthening various policies including food system policies, and reviewing national or sub-national strategies focusing on the prevention of overweight and obesity, including the National Food Labeling Regulations of 2006 when addressing the problem of overweight and obesity.

8. Changes in Nocturnal Heart Rate Variability in People Living with HIV During The First Year Of Antiretroviral Therapy Compared to HIV-Uninfected Community Controls

Authors: Bazil Kavishe, George PrayGod, Soren Brage, Brenda Kitilya, Daniel Faurholt-Jepsen, Jim Todd, Kidola Jeremiah, Suzanne Filteau, Mette Frahm Olsen, Robert Peck

Affiliations: National Institute for Medical Research

Background: Higher nocturnal heart rate and lower nocturnal heart rate variability (HRV) are associated with increased cardiovascular disease mortality. Longitudinal studies on nocturnal HRV in people living with HIV (PLWH) are lacking.

Aim: We determined whether nocturnal HRV is independently and persistently abnormal in PLWH after one year of antiretroviral therapy and investigated factors associated with persistently lower HRV.

Methodology: We conducted a one-year prospective cohort study of adult PLWH and HIV-uninfected community controls in north-western Tanzania. At enrollment, we collected data on cardiovascular risk factors and tested blood samples for hemoglobin, insulin, CD4 cell count and C-reactive protein. We measured nocturnal HRV and heart rate at baseline and first year follow-up. Mixed effect linear regression was used to determine predictors of lower HRV.

Results: Out of 111 enrolled participants (74 PLWH and 37 HIV-uninfected), 57.7% were female and the median age was 40 years. Over one year of follow-up, the average nocturnal heart rate was 4.5 beats/minute higher in PLWH ($p=0.006$). In the fully adjusted model (with age, sex, nocturnal heart rate and diabetes), average nocturnal HRV was 10.5 milliseconds lower in PLWH compared to HIV-uninfected adults ($p=0.03$). Unlike with nocturnal heart rate, nocturnal HRV did not improve after one year of ART in PLWH or HIV-uninfected (fully adjusted change = -2.5 milliseconds, $p=0.45$). Lower educational attainment, lesser pancreatic β -cell function and anemia were associated with higher HRV.

Conclusion: Nocturnal parasympathetic nervous system function was persistently lower in PLWH compared to HIV-uninfected even after antiretroviral therapy initiation.

Recommendations: Improving nocturnal autonomic nervous system function could be a target for cardiovascular disease prevention in PLWH.

SUBTHEME: TECHNOLOGY

1. Expressions of P16 and TOP2A Protein Biomarkers in Cervical Cancer Lesions and Their Correlation with Clinico-Histopathological Characteristics in Tanzania

Authors: Zavuga Zuberi, Alex Mremi, Jaffu O. Chilongola, George Semango, and Elingarami Sauli

Affiliation: Department of Global Health and Biomedical Sciences, Nelson Mandela African Institution of Science and Technology, Arusha, Tanzania, Department of Pathology, Kilimanjaro Christian Medical Centre, Moshi, Tanzania, Kilimanjaro Christian Medical University College, Moshi, Tanzania, Kilimanjaro Clinical Research Institute, Moshi, Tanzania, Department of Science and Laboratory Technology, Dar es Salaam Institute of Technology, Dar es Salaam, Tanzania

Background: Biomarkers yield important information for screening and diagnosis of cervical cancer. However, they are rarely applied in the screening and diagnosis of cervical cancer in Tanzania, where visual inspection assay with acetic acid or Lugol's iodine is being used as the standard screening methods.

Aim: To assess cyclin-dependent kinase inhibitor (p16) and topoisomerase II-alpha (TOP2A) proteins expression among women seeking cervical cancer care at Kilimanjaro Christian Medical Centre, Tanzania.

Methodology: This was a retrospective hospital-based cross-sectional study that was conducted to assess p16 and topoisomerase II-alpha (TOP2A) proteins expression among women seeking cervical cancer care at Kilimanjaro Christian Medical Centre, Tanzania between May 1, 2017, and May 10, 2018. Haematoxylin and Eosin-stained slides were retrieved and classified according to the World Health Organization classification of cervical tumours. Immunohistochemistry technique was used to detect the expressions of p16 and TOP2A proteins.

Results: A total of 145 patients, with a mean age of 52.10 ± 12.86 years, were included in this study. Of these, 95 (65.5%) had cancerous cervical lesions. Upon immunohistochemistry staining, 103 (71.0%) and 90 (62.1%) were p16 and TOP2A positive respectively. There was a strong association between histopathological class/subtype and p16/TOP2A expression levels (Fisher's exact test, $p < 0.001$). Moreover, there was high positive correlation between p16/TOP2A with cancerous cervical lesions (Spearman's rank correlation coefficients = 0.85 and 0.75, with p -values = 0.005 and 0.004, respectively).

Conclusion: Our study has highlighted p16 and TOP2A to be promising biomarkers in classifying cervical lesions among women seeking cervical cancer care in Tanzania.

Recommendation: Further investigation and feasibility studies are still needed on these markers before considering them for early diagnosis of cervical cancer especially in Tanzania. In addition, the diagnostic performances of these biomarkers need to be validated in clinical setting and compared to readily available commercial diagnostic assays for cervical cancer screening and control in our setting.

2. The Use of Cardiac Tek for Interpretation of ECG Reports in Tanzania Health Facilities

Authors: Longnus Gilbert, Silvano Bairon

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Cardiovascular diseases are the leading causes of deaths globally with 82% of its burden in LMIC countries. Electrocardiogram is frequently used in diagnosis of cardiovascular diseases. If early and correctly interpreted could be promising life saver. ECG interpretation is a problem among clinicians. Studies from various countries such as Kenya and Tanzania show that approximately 54% of clinicians lack sufficient skills in ECG interpretation.

Aim: To help clinicians with timely and accurate automatic interpretation of ECG findings using artificial intelligence algorithm.

Methodology: ECG data was obtained from MIT Diagnostic dataset and PTB Diagnostic ECG database. These data were assessed and processed by a machine learning engineer, then split into a training set and a testing set. The training set was divided into normal and abnormal ECG and was then used to train the machine learning algorithm. The test data set was used to test the trained algorithm.

Results: The algorithm had an ability to distinguish the normal ECG from abnormal readings. It showed an accuracy of 98%, sensitivity of 89.7%, and specificity of 99.6%. This result based on phase one of project, we expect to continue with next phase where the algorithms will be able to differentiate cardiac pathologies. This will provide clinicians with correctly interpreted ECG findings which will enable proper management of the patients.

Conclusion: The interpretation of ECG reports is a very serious problem among clinicians and even inexperienced cardiologists. This problem needs serious attention, proper and effective solution has to be provided.

Recommendations: The use of artificial intelligence algorithm will enhance rapid and accurate interpretation of ECG reports giving clinicians more time to interact with patients and treat them appropriately. More training on the study of ECG interpretation should be done among medical students to avoid incompetency in ECG interpretation.

3. Digital Health Model to Improve Access to Screening and Longitudinal Care for Hypertension and Diabetes in Tanzania: The Afya Imara Program

Authors: Oren Ombiro, Hellen Lutta, Eric Angula, Anne Stake

Affiliation: Medtronic LABS

Background: Low prevention, screening, treatment, and follow-up coverage presents a major hinderance to NCD control efforts. Since February 2022 and for a period of 18 months, the Afya Imara program is piloting an end-to-end digital health model to bridge this gap in Tanzania.

Objective: To improve screening and outcomes (control) for hypertension and diabetes across four regions in Tanzania.

Methodology: The platform has inbuilt dashboards for real-time tracking of both individual and aggregate data to facilitate prompt clinical and programmatic decision-making.

Results: By end of September 2022, 58,484 people have been screened and 16,331 patients enrolled (63% hypertension, 12% diabetes, 24% both hypertension and diabetes). Of the enrolled patients, 62% are female, 51% are aged 50-69years, 61% are overweight/obese and 78% are currently active in care. Among hypertension patients who have completed 3 months in the program (n=683), 22% have both an enrolment and repeat BP. Among this sub-group, the proportion of patients with controlled BP increased from 29% at baseline to 56% at 3 months. Among diabetes patients who have completed a similar duration in the program (n=270), 28% have an enrolment and repeat BG; the proportion with controlled BG increased from 27% at enrolment to 45% at 3 months.

Conclusion: These initial learnings demonstrate improved access to screening and favorable clinical outcomes.

Recommendation: Digital health models should be scaled to transform the NCD response in Tanzania.

4. Outcomes of Open-Heart Surgery in A Tertiary Hospital in Nairobi: A Single Year Review

Authors: Kahamba Nelly, Ogutu Peter, Abdulkarim Abdallah

Affiliation: The Aga Khan University Nairobi

Background: Cardiovascular diseases are the number one cause of death due to non-communicable diseases worldwide where an estimated 17.9 million people die yearly, according to WHO. Most of this disease burden lies in the low- and middle-income countries with limited data available on treatment outcomes. The treatment can be medical and/or surgical. We present a review of outcomes of open-heart surgery in the Aga Khan university in Nairobi.

Aim: To determine the outcomes of open-heart surgery in Aga Khan University Hospital 2019-2020

Methodology: This was a retrospective study that looked at the outcomes of open-heart surgery via a composite outcome of Major Adverse Cardiac Events (MACE) which included: 30-day mortality, stroke, acute kidney injury and post-operative infections. We also looked at factors associated with MACE and other complications.

Results: 45 patients underwent open heart surgery between January 2019 and 2020. A total of 43 patients were analysed after fulfilling the inclusion criteria. The mean age of the patients was 47.2 years (SD 15.8). The most common cardiovascular disease was rheumatic heart disease 58.1%, with 32% of the patients presenting with double and triple valve disease each. The prevalence of MACE was 11.6% (95% CI 23.7-53%), the overall 30-day mortality irrespective of type of surgery was 7% (95% CI: 2.2-20.3%) where for CABG patients mortality rate was 10%. Patients who had MACE were found to have prolonged bypass time and operative time however this was not statistically significant.

Conclusion: The prevalence of MACE after open heart surgery from this study is 11.6% which is better than that found in the literature, with a mortality rate of 7%. The mortality rate for CABG was higher than that found in literature. Our study sample size was 43 patients, a larger sample size is needed for risk factor analysis.

Recommendation: A prospective study looking at the outcomes of open-heart surgery at our institute, will help to assess the modifiable risk factors to adverse cardiac events occurrence and thus change our practice to improve the outcomes. Since open heart surgery is still a growing practice in Africa with small numbers of patients per institution, a multinational registry of all patients undergoing open heart surgery is recommended to have a larger sample size to conduct outcome studies.

SATELLITE SESSIONS

Satellite Session 1a (TANCDA)

<p style="text-align: center;">TOPIC: NCDs, MENTAL HEALTH & INJURIES IN TANZANIA: CATCHING THE BULL BY ITS HORNS VENUE: 1 TIME: 13.30 – 14.30 CHAIRPERSON: PROF KAUSHIK RAMAIYA RAPPORTEUR: MARY NDIBALEMA</p>
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Topic	Presenter/Speaker
MoH - National NCD Strategy year 2021-2026	Dr. Anzibert Rugakingira
Inclusion of NCDs to Primary Health Care	Dr. James Kengia
National NCD, Type 1 diabetes & diabetes foot program	Dr. Rachel Nungu
Mental health- key actions from mental health forum and dialogue	Dr. Likindikoki Samuel
Escalating trauma related morbidities & Mortalities in Tanzania: is it an opportune move to trickle down services to Primary Health Care?	Dr. William Mgisha
Air pollution & Asthma in School Children	Dr. Bibie Said

Primary Health Care Optimization for Management of Hypertension in Dodoma and Dar es salaam	Ms. Zahra Kaba
Empowering people with NCDs	Ms. Happy Nchimbi

Satellite Session 1b (CUHAS)

<p>TOPIC: INFECTIOUS DISEASES AS A RISK FACTOR FOR NCDs</p> <p>VENUE: 2</p> <p>TIME: 13.30 – 14.30</p> <p>CHAIRPERSONS: PROF JEREMIAH SENI/PROF. DOMENICA MORONA</p> <p>RAPPORTEUR: EVA MALINDISA</p>

Topic	Presenter/Speaker
HIV, Sleep and Cardiovascular Disease	Prof. Robert Peck
Epidemiology of cardiovascular disease risk factors in HIV-infected compared to HIV-uninfected adults	Dr. Bazil Kavishe
A Prospective Stroke Register in Tanzania: Two-year data and Future Directions	Dr. Sarah Matuja
- Parasites and cancers	Dr. Andreas Mueller
Mental health and NCD	Prof. Jurgen Deckert
COVID 19 and NCD in South Africa	Prof. Wolfgang Preiser
H. pylori and gastrointestinal cancer	Dr. Hyansita Jaka
Hydroxyurea with Dose-Escalation to Reduce Primary Stroke Risk in Children with Sickle Cell Anaemia in Tanzania: Primary Results of the SPHERE Trial	Dr. Emmanuela Ambrose

Satellite Session 1a (NIMR)

<p>SATELLITE TOPIC: INCREASING ACCESS TO INTEGRATED CARE FOR SEVERE NCDS- WHO PEN PLUS MODEL OF CARE</p> <p>VENUE: 3</p> <p>TIME: 13.30 – 14.30</p> <p>CHAIRPERSON: PROF. SAID S. ABOUD</p> <p>RAPPORTEUR: DR. LILIAN TINA MINJA</p>
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Topic	Presenter/Speaker
Session Introduction	Dr. Mary Mayige
NCD Voices	Arafa Salim Said Upendo Y. Kananika Salome Obedi
Community screening of Rheumatic heart disease: Low prevalence of Rheumatic Heart disease among school children in urban Moshi	Prof. Kajiru Kilonzo

Opportunities and Challenges for Rheumatic Heart Disease Care in Tanzania	Dr. Ruben Mutagaywa
Survival Of Children and Youths with Type 1 Diabetes Mellitus In Tanzania	Dr. Edna Majaliwa
Development and Evaluation of an integrated Community Based Management for HIV, Diabetes and Hypertension in Tanzania and Uganda: INTE-COMM study	Dr. Faith Aikaely
The role of research in strengthening SCD care in Mbeya	Dr. David Magombola
Post TB Lung Disease - Tuberculosis beyond treatment completion; Findings from the TB Sequel project	Dr. Nyanda E. Ntinginya

ORAL PRESENTATIONS

DAY 2

PARALLEL SESSIONS

SUBTHEME: SUSTAINABLE & SCALABLE INTEGRATED CARE

1. Evaluating the Impact of a Training Program in Prehospital Trauma Care and Mental Health for Traffic Police in Arusha, Tanzania

Authors: Peter Mabula, Rupa Joshi, Stephen Dunlop, Tim Kummer, Godfrey Kisigo, Jaymie Hansen, Christine Klein, Alec Bunting, Brandon Knettel, Nathan Koranda

Affiliations: Same Qualities Foundation, NSK Hospital, Arusha Lutheran Medical Centre, KOPI Medical, Hennepin Healthcare, KOPI Medical, Hennepin Healthcare, Mwanza Intervention Trials Unit, Duke Global Health Institute

Background: Tanzania does not have a formalized prehospital Emergency Medical Services (EMS) response. Often, police officers are the first professionals to arrive at the scene of an accident or injury. As a result, the Arusha Regional Traffic Police play an integral role in the emergency system.

Aim: To examine the impact of training on effective responses to prehospital trauma and mental health, including potential improvements in knowledge among police officers in the Arusha region, Tanzania.

Methodology: We provided 12 hours of prehospital EMS training to 47 police officers. The training syllabus focused on conducting a primary survey of the accident scene, managing common airway, spinal cord, and bleeding emergencies, and coping strategies for mental health stressors related to this role. Participants completed surveys and knowledge tests before and after the training (before, N=30; after, N=44). The primary outcome was the mean change in knowledge score analyzed by Wilcoxon Rank Sum test.

Results: Among the 47 police officers, the majority (n=38, 81%) were certificate holders and half (n=24, 51%) had prior EMS training. At baseline, police officers with previous training scored significantly higher than those without prior training (mean=14.0 vs. 11.3, p=0.003). From pre- to post-training, the mean score for the knowledge test significantly increased from 12.7 to 15.5, with a mean difference of 2.8 (95% CI 1.4-4.3, p<.0001). Police officers with previous training had higher post-training scores (mean=16.4 vs. 14.7), but this difference was not statistically significant (p=0.198).

Conclusion: A brief training for police officers on prehospital EMS can increase essential knowledge for responding to motor traffic injury emergencies. Training is equally beneficial for those with and without prior EMS training.

Recommendation: These initial results are extremely promising; however, more research is needed to determine whether knowledge is retained over time and whether training has a positive impact on professional practices and health outcomes, including reductions in accident-related deaths and morbidity.

2. Poor Blood Pressure Control Despite Modest Medication Adherence: It's Time to Reorganize Practice!

Authors: Pedro Pallangyo, Makrina Komba, Zabella S. Mkojera, Smita Bhalia, Henry Mayala, Engerasiya Kifai, Khuzeima Khanbhai, Peter R. Kisenge

Background: Notwithstanding the widespread use of blood pressure lowering medications, hypertension which affects a quarter of the global population is having its biggest toll in the sub-Saharan Africa region (prevalence 46%). Suboptimal adherence, a key contributor to uncontrolled hypertension, is associated with development of hypertensive complications, increased risk of cardiovascular events and poor survival prospects.

Aim: In this cross-sectional hospital-based study we aimed to explore the prevalence and associated factors for medication adherence among outpatient hypertensives attending a tertiary level hospital in Tanzania.

Methodology: A structured questionnaire was utilized for data collection and standard protocols were observed in all clinical measurements. Adherence was measured as the proportion of pills taken out of the total number of pills prescribed during the last visit. In descriptive analyses, adherence was dichotomized and consumption of less than 80% of the prescribed medications was used to denote poor adherence. Linear regression analysis was employed in the assessment of associated factors. All analyses were two-sided and a $p < 0.05$ was used to denote significance.

Results: A total of 849 outpatients taking antihypertensive drugs for ≥ 1 -month prior recruitment was randomly enrolled in this study. The mean age was 59.9 years and about two-thirds were females. Roughly 0.3%, were current smokers, 5.9% alcohol consumers, 74.0% were insufficiently active and 80.2% had excess body weight. With reference to awareness of risk factors for hypertension; excess salt intake was mentioned by 38.2% of participants, excess fat intake by 67.4%, overweight by 16.8%, physical inactivity by 12.7%, smoking by 3.9%, excess alcohol intake by 10.3% and positive family history by 3.2%. Overall, a total of 653 (76.9%) participants had good adherence and 367 (43.2%) had their blood pressure controlled. Multivariate logistic regression analysis showed; lack of a health insurance (OR 0.5, 95%CI 0.3-0.7, $p < 0.001$), frequent unavailability of drugs (OR 0.6, 95%CI 0.3-0.9, $p = 0.03$), running out of medication before the next appointment (OR 0.6, 95%CI 0.4-0.9, $p = 0.01$) and stopping medications when asymptomatic (OR 0.6, 95%CI 0.4-0.8, $p < 0.001$) to be independent associated factors for poor adherence.

Conclusion: A substantial proportion of hypertensive outpatients in this tertiary-level setting had a good adherence to prescribed antihypertensives. Nonetheless, observed suboptimal blood pressure control regardless of a fairly satisfactory adherence rate suggests that lifestyle modification plays a central role in hypertension management.

Recommendations: Furthermore, considering the high prevalence of modifiable lifestyle risk factors and the low awareness of such, it is pivotal for the routine clinical practice and health promotion programs to address medication adherence and lifestyle modification simultaneously.

3. Skin diseases and their pattern in PEP4LEP implementing districts in Tanzania

Authors: Nelly Mwageni, A. Schoenmakers, R. van Wijk, B. Njako, P. Nyakato, C. Kasang, J.E Masenga, Thomas Hambridge, L. Mieras, S.E. Mshana

Affiliation: Catholic University of Health and Allied Sciences, Tanzania, NLR, The Netherlands, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands, German Leprosy and Relief Association, Tanzania, German Leprosy and Relief Association, Germany, Kilimanjaro Christian Medical University College, Tanzania

Background: Skin diseases are not uncommon human illnesses globally. A proper diagnosis may uncover a wide range of diseases that prevail in the skin like Neglected Tropical Diseases (NTDs). Integrated skin screening is an approach used in PEP4LEP, a research project in Ethiopia, Mozambique, and Tanzania in which leprosy chemoprophylaxis is provided.

Aim: This study aims to present preliminary results on skin diseases and their patterns as found during integrated skin screening in three Tanzanian districts.

Methodology/Project plan: PEP4LEP is a two-arm, cluster-randomized implementation trial involving screening of leprosy patients' contacts and provision of chemoprophylaxis, comparing two interventions, community skin camps, and health facilities.

Results/Progress: Of 2736 participants screened, 1484 (54.2%) had skin conditions. 298 (20.1%) had more than one skin condition. The mean age of those who had skin conditions was 25.51 years. 55.0% of all participants with skin conditions were females and the majority (52.8%) were 20 years and below. 13 (0.9%) were newly diagnosed with leprosy, and other frequently detected skin diseases were: tinea capitis, pityriasis Versicolor, atopic dermatitis, tinea cruris, and tinea corporis. Apart from leprosy other diagnosed skin NTDs - included: scabies, onchocerciasis, and deep fungal infections.

Conclusion: Integrated skin screening may increase the chances of revealing a range of skin conditions in communities, including skin NTDs like leprosy, especially when conducted in endemic areas.

Recommendations: Outreaches and skin camps activities may promote awareness of skin conditions and facilitates early detection of some skin conditions that are of public health importance especially when conducted in endemic areas.

4. Prevalence of New-Onset Diabetes Mellitus, Associated Factors and Outcomes of Hyperglycemia on Mortality among Hospitalized COVID-19 Patients at Bugando Medical Centre, Mwanza, Tanzania

Authors: Sayyida Shabbir Suleman, Samuel Kalluvya, Bahati Wajanga, Albert M. Muniko, Fredrick Kalokola, Jeremiah Seni

Affiliations: Catholic University of Health and Allied Sciences, & Bugando Medical Center, Mwanza, Tanzania.

Background: Diabetes mellitus (DM) is unquestionably one of the leading risk factors for severe form of COVID-19. However, the diabetogenic effect of COVID-19 has been sparsely evaluated in the Tanzania context.

Aim: To evaluate new-onset DM, associated factors and predictors of mortality among hospitalized COVID-19 patients at Bugando Medical Center (BMC) in Mwanza, Tanzania.

Methodology: A cross-sectional study involving 232 adult patients who have tested positive for RT-PCR assay and/or SARS-COV-2 specific rapid test antigen between February and October 2021. At admission blood glucose and HbA1C were recorded, and the patient's glycemic levels were taken into account until discharge to assess for the study outcomes. Data was analyzed using STATA software version 13.

Results: The median age (IQR) was 61 years [52-72] with male accounting for 72.4%. Forty (17.24 %) were found to have new onset diabetes. Predictors of new onset DM were history of hypertension (p-value=0.032) and obesity (p-value=0.034). The overall in-hospital mortality was 26.3% (61/232), and was increasing with the COVID-19 severity. Mortality was higher among patients with new-onset DM than the counterpart (40.0% versus 23.4%, p-value<0.030). Independent predictors of in-hospital mortality were history of hypertension [OR (95%CI: 2.27 (1.15-4.46); p-value=0.018], elevated serum ferritin [OR (95%CI: 3.95 (1.80-8.67); p-value=0.001], elevated D-Dimer [OR (95%CI: 3.52 (1.34-9.23); p-value=0.010)] and new-onset DM [OR (95%CI: 2.24 (1.00-5.04); p-value=0.050].

Conclusion: The prevalence of new-onset DM was 17.24% and mortality in this population was two-fold. Hypertension, elevated inflammatory markers (notably serum ferritin and D-Dimer) on admission and new-onset DM had increased odds of in-hospital mortality.

Recommendations: Priority screening of these predictors among all COVID-19 patients on admission is recommended to guide specific management and avert these unfavorable treatment outcomes.

5. Seeking and receiving chronic non-communicable diseases care in Tanzania

Authors: Kassimu Tani, Brianna Osetinsky, Grace Mhalu, Sally Mtenga, Günther Fink, Fabrizio Tediosi

Affiliation: Ifakara health institute, Tanzania, Swiss Tropical & Public Health Institute, University of Basel, Switzerland

Background: The rapid increase of chronic non-communicable diseases (NCDs) poses a major challenge for already strained health systems in sub-Saharan Africa.

Aim: This study investigates the factors associated with seeking and receiving NCD services in Tanzania.

Methodology: This study using a household survey and a client exit survey data from Kilombero and Same districts.

Results: Out of 784 household survey respondents, 23.6% were diagnosed with NCDs, of which 69% sought care in the last six months. After controlling for covariates, individuals enrolled in one of the social health protection schemes were more likely to seek health services except for

those registered with the improved Community Health Funds (iCHF). In the client exit survey, a higher proportion of patients registered with NHIF received all required services in the health facility visited compared to non-insured patients or registered with other insurance schemes. Patients enrolled in iCHF were 35% less likely to receive all essential services. Even when NCDs patients managed to access needed care, they were likely to receive incomplete services especially at health centre and dispensary levels. The main reason for not receiving all services at the health facility visited on the day of survey were drug stock outs.

Conclusion: The findings of this study indicate the need for both strengthening primary care and social health protection schemes to increase access to needed care for NCD patients.

Recommendation: Strengthening primary care, improving the medicine supply chain, the inclusiveness of social protection schemes may foster improvements in access to needed NCD services.

6. Role of Clinical Audit Practice in Enforcing Early Detection and Management of Non-Communicable Diseases (NCDs) in Health Care Facilities

Authors: Simon Ernest, Dr. John Mwombeki, Wingod Matowo, Dr. Frank Shega, Dr. Isaac Mlay, Hilda Mushi, Jacqueline Uriyo

Affiliation: Directorate of Curative Services-Ministry of Health, Directorate of Nursing Services-Ministry of Health, Orthopaedics, Department-Mount Meru Regional Referral Hospital, Paediatrics Department-Iringa Regional Referral Hospital, Paediatrics Department-Mount Meru Regional Referral Hospital

Background: To improve the quality of patient care and ensure the best clinical practice, the Ministry of Health (MoH) implemented the Clinical Audit across all levels of Health Facilities as one of its various quality improvement interventions. Good clinical practice increases the likelihood of early detection and proper management of diseases including NCDs.

Aim: To assess compliance with standards when delivering clinical care to clients in District, Regional, Zonal, Specialized, and National Hospitals.

Methodology: After the dissemination of the National Clinical Audit Guideline in December 2021, the MoH developed and piloted tools that were used to collect information on General Clinical Care, Nursing, Intensive Care, and Midwifery Services. This was done through patients' document review, observation, and interviews. Services were audited against set standards and were adjusted according to availability in the respective facility. A color-coded scoring criterion was used, i.e., a score of 90% and above (green) was regarded as good performance, 70% - 89% (yellow) fair performance, and below 70% (red) poor performance.

Results: The audited areas with the overall performance in clinical services delivery were; Patient examination 30%, History taking 44%, Pharmacy 45%, Inpatient Services 46%, Radiology and imaging 54%, Perioperative Services 54%, Laboratory 59%, Communication with patients 63% and Patient particulars 69%, Treatment 67% and Plan of management 71%. Baseline

findings indicate that the average compliance rate in the Regional Referral Hospitals was (45%), Zonal Hospitals (47%), Specialized Hospitals (53%), and National Hospitals (72%).

Conclusion: Furthermore, the 15 district hospitals and 28 regional referral hospitals had average compliance of 29% and 23% with the set standard in history taking and physical examination, respectively. These are two areas that are important in the prevention, and control of NCDs had the lowest performance across all levels of care.

Recommendation: The results highlight the existing gap between the health care services provided and the recommended practice in the health care facilities. Strengthening early detection and management of diseases including NCDs needs support from all key NCDs stakeholders to ensure that healthcare providers comply with standards in clinical practice particularly clerkship protocols and documentation.

7. Routine Health Check-Ups for Adolescents in Tanzania: Stakeholders' Recommendations on Content, Venue, and Delivery Mode

Authors: Yovitha Sedekia, Gerry Mshana, Mussa K. Nsanya, Kid Kohl, Mwita Wambura, Heiner Grosskurth, David Ross, Saidi Kapiga

Affiliations: Mwanza Intervention Trials Unit/National Institute for Medical Research, Mwanza, Tanzania, The Global Fund to Fight AIDS, TB and Malaria, Geneva, Switzerland, Department of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine [LSHTM], London, United Kingdom, Institute for Life Course Health Research, Stellenbosch University, South Africa, Department of Infectious Disease Epidemiology, LSHTM, London, United Kingdom

Background: Routine health screening for adolescents may increase attention to their health issues and improve their health. Evidence is needed for the World Health Organization (WHO) and partners to provide guidance on whether national public health systems should provide comprehensive adolescent health screening, what should be included, and delivery strategies.

Aim: To define content, delivery strategies, feasibility and acceptability of health check-ups for adolescents in Tanzania

Methodology: We conducted formative research in Mwanza city through key informant interviews between April and July 2020 as part of a collaborative research program coordinated by the WHO and involving Tanzania, Zimbabwe and Ghana. We used a semi-structured guide with purposively selected stakeholders from government departments, non-governmental/community-based organisations, schools, and health facilities. We employed thematic analysis and used NVivo 12 software to manage data.

Results: We report results from 31 in-depth interviews under three main domains: proposed health conditions for routine health check-ups, venue for providing the services, and the mode of delivery. Stakeholders were supportive of providing routine health check-ups and recommended that they should be adolescent-friendly and include screening for non-communicable diseases, physical disabilities, and common mental health problems. They recommended the services

should be provided in schools for both age groups and also in community settings for older and out-of-school adolescents, and at youth-friendly health facilities for health conditions requiring a high level of confidentiality.

Conclusion: Stakeholders were supportive of routine health check-ups for adolescents.

Recommendation: Evaluation of health impact and cost-effectiveness of the health check-ups is needed to guide policy.

8. Factors Influencing Integration of Non-Communicable Diseases into HIV & AIDS Healthcare Services in Tanzania

Authors: Anzibert Rugakingira, Nathanael Sirili, Emmy Meta, Kaushik Rumaiya, Amani Kiondo, Remigius Andrew, Bruno Sunguya

Affiliations: Ministry of Health, Dodoma, Tanzania, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania, Shree Hindu Mandal Hospital, Dar es Salaam, Tanzania, Benjamin Mkapa Hospital, Dodoma, Tanzania

Background: NCDs are becoming a more common cause of morbidity in LMICs, particularly among PLHIV due to the stimulation of inflammatory markers and ART-associated reactions. Integration of NCDs into HIV&AIDS services has been advocated as a key method for boosting the global HIV response's sustainability and achieving the aim of 'ending AIDS by 2030.' Various studies have been conducted to examine the models, policies, goals, and needs for integration.

Aim: To explore factors influencing the integration of Non-Communicable Diseases into HIV&AIDS healthcare services in Tanzania.

Methodology: An exploratory qualitative case study was conducted at the Ministry of Health, President's Office Regional Administration and Local Government, National AIDS Control Program (NACP), Tanzania Commission for AIDS (TACAIDS), and Tanzania NCDs Prevention and Control Program (TaNCDP). 22 key informants were interviewed. This study was based on the experiences and decisions of the key informants related to study objectives and was guided by SII. Thematic analysis was employed for analysis assisted by NVivo software (QSRinternational) version 12. The analysis was carried out in five stages suggested by Virginia Braun and Victoria Clarke.

Results: Motivation, positive attitude, awareness and readiness towards integration, adequate knowledge and skills on both HIV and NCDs promote integration, perceived negative attitude and additional workloads to HIV service providers inhibit integration. Adequate human resources, existence of defined organizational structures, policy and guidelines for both NCDs and HIV services, presence of funds and stakeholders' interest on integration were organizational factors for integration, but hindered by perceived additional costs, varying donors' interests and varying service payment modalities. Moreover, adequate data collecting tools, diagnostic devices and systems for reporting were among health system factors for integration but limited by perceived additional health infrastructures and the need for reorientation and refresher trainings.

Conclusion: Integration increase access, improving quality, and sustaining NCDs prevention and control interventions among people living with HIV&AIDS. Lastly, addressing some of the perceived constraints to achieve integration is very crucial.

Recommendations: Ministry of Health should hold stakeholder consensus meetings in collaboration with partners to financially support integration of NCDs into HIV & AIDS healthcare services in Tanzania. Also, providing adequate refresher training and skill development programs to their employees at all levels of the health systems is very important.

SUBTHEME: MENTAL HEALTH

1. Depression and suicidal thoughts associated with intimate partner violence perpetration and other psychosocial factors among young men in Mwanza, Tanzania

Authors: Diana Aloyce, Gerry Mshana, Neema Mosha, Mwita Matiko, Donati Malibwa, Simon Sichwale, Saidi Kapiga and Heidi Stöckl

Affiliation: Mwanza Intervention Trials Unit, Mwanza, Tanzania, National Institute for Medical Research, Mwanza, Tanzania, Catholic University of Health and Allied Science, Institute for Medical Information Processing, Biometry, and Epidemiology, Ludwigs-Maximilians-University Munich, Munich, Germany, London School of Hygiene and Tropical Medicine, London, UK

Background: Depression and suicidal thoughts are associated with intimate partner violence (IPV), a public health issue that highly impacts women's health. They are also associated with other risk behaviours such as substance abuse and risky sex. Most studies have given more focus to women who experience IPV than on male perpetrators. Hence knowledge of the relationship between male perpetrators of IPV, depression, and suicidal thoughts is scarce in Africa.

Aim: To determine the prevalence of depression and suicidal thoughts associated with IPV perpetration and other psychosocial factors among young men in Mwanza, Tanzania.

Methodology: This study used data from a male cross-sectional survey conducted between June 2021 and February 2022 by Intervention Trials Unit in Mwanza, Tanzania. The study included 1002 young men aged between 18 and 24 years old. Data on socio-demographic characteristics, depression, suicidal thoughts, IPV perpetration, and other associated psychosocial factors were analyzed using STATA software version 17.

Results: In this study a total of 1002 young men were screened for depressive symptoms and suicidal thoughts. A total of 333(40.2%) were found to have depressive symptoms and 93(11.9%) with suicidal thoughts. Also, 725 (87.6%) of the participants reported ever perpetrating any form of intimate partner violence. In the adjusted models, depression was statistically significantly associated with sexual IPV perpetration (aOR=2.19, 95%CI=1.57, 3.04), emotional IPV (aOR=1.76, 95%CI=1.26, 2.46) controlling behaviours (aOR=1.46 95%CI=1.10, 1.93) and economic violence (aOR=1.32 95%CI= 1.01, 1.74). None of the multivariable models showed a significant association with suicidal thoughts (P-value>0.005). Men with food insecurity were significant highly associated with depression.

Conclusion: Depression and suicidal thoughts are associated with intimate partner violence perpetration among young men in Mwanza Tanzania.

Recommendation: There is a need to design good inclusive interventions that can address both intimate partner violence and mental problems like depression and suicidal thoughts that also target young men for sustainability.

2. Perceived Social-Mental, Economic and Physical Disruptions of Living with Multimorbidities and Enrollment into Health Insurance: A Qualitative Inquiry

Authors: Sally Mmanyi Mtenga, Grace Mhalu, Brianna Osetinsky, Tani Kassim, Brady Hooley, Honorati Masanja, Fabrizio Tediosi

Background: Multimorbidity is a major concern in low- and middle-income countries at the family, community, and national levels. Despite diverse epidemiological evidence on the prevalence of multimorbidity, there is limited data on life disruptions experienced by patients with chronic illnesses. Although health insurance is pivotal for universal healthcare access, there is limited data on the enrolment of health insurance among patients with comorbidities.

Aim: To explore patients' opinions on life disruptions experienced while living with multimorbidity illness and enrolment into health insurance.

Methodology: Cross-sectional semi-structured interviews was conducted with 28 patients (male and female) with communicable and non-communicable multimorbidities attending their Tuberculosis clinic in Mwananyamala hospital, Dar es Salaam, Tanzania. We also interviewed 10 healthcare providers who provide care within the specified unit. Bury's theory of disruption was adapted to construct the study tool and categorize the findings during content thematic analysis.

Results: Most patients reported living with tuberculosis, hypertension and diabetes. Life disruptions reported by patients were grouped into social-mental disruptions (loneliness, despair, unhappiness, lack of interest to interact with others) and illness identity; Economic disruption (loss of employment, economic dependence, and inability to afford the required diet); and Physical disruption (body weakness and pain, change of body image due to high intake of medicine). All participants who were interviewed reported that they were not enrolled in any health insurance. One of the main reasons for this was a lack of finances.

Conclusion: Our study suggests that patients with multimorbidity experience multiple disruptions including social-mental, economic, and physical. In addition, patients with multimorbidity reported poor enrolment into health insurance due to lack of finances. The disruptions experienced by patients with multimorbidity and limited enrolment into health insurance are likely to negatively affect their quality of life and illness management.

Recommendations: We recommend universal health insurance cover vulnerable with multiple long-term chronic illnesses.

3. Prevalence and Associated Factors of Depression among Older Adults in Rural Tanzania

Authors: Damas Andrea Mlaki, Laila Asmal, Stella-Maria Paddick, William K. Gray, Catherine Dotchin, Richard Walker

Affiliations: Department of Psychiatry, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa, Mirembe National Mental Health Hospital, Dodoma, Tanzania, Newcastle University, Newcastle upon Tyne, United Kingdom, Northumbria Healthcare NHS Foundation Trust, United Kingdom

Background: Depression is the commonest mental disorder in older adults worldwide, affecting 7% of the world's older population and accounting for 5.7% of years lived with disability among adults aged over 60 years. In SSA there is a paucity of epidemiological data for depression in older adults.

Aim: We conducted a secondary data analysis to determine the point prevalence, associated risk factors and treatment gap for DSM-IV depression among older adults in the Hai District, rural Tanzania

Methodology: The primary data source was a cross-sectional two-stage community-based dementia study where older adults aged ≥ 70 years ($n=296$) were fully-assessed for dementia and depression in the second stage. Age-adjusted prevalence of depression was determined based on the WHO standard population using the Direct Method. Univariate and multivariate logistic regression models were performed.

Results: Of the 296 older adults assessed for depression, 48 were diagnosed with depression based on Diagnostic and Statistical Manual of Mental Disorders-IV criteria. The median (Inter Quartile Range) (IQR) age was 80(75–88) years. Age-adjusted point prevalence of depression was 21.2% (95%CI: 16.6–21.9) and the treatment gap for depression was 100%. There was reduced odds of depression in older adults who rated their physical health as good or very good (AOR=0.22; 95%CI: 0.10–0.46; $p<0.001$), or moderate (AOR 0.26; 95%CI: 0.10–0.66; $p=0.005$).

Conclusion: Depression in older adults is associated with physical health status and there is an alarmingly high treatment gap. Future research on depression in older adults should focus on effective interventions to address physical morbidity, psychosocial factors and the treatment gap.

Recommendations: Future research on depression in older adults should focus on effective interventions to address physical morbidity, psychosocial factors and the treatment gap.

4. Drowning in Lake Victoria Fishing Communities: Perceptions of Risky Fishing Behaviours and Practices among Fishermen

Authors: Joyce Pando, Yovitha Sedekia, Natasha Howard, Amen Moshi, Christian Holm Hansen, Philip Ayieko, Otto Rocky, Happiness Mahanga, Mtoro Jabbar, Saidi Kapiga, Heiner Grosskurth, Deborah Watson-Jones, Hilary Whitworth

Background: Lake Victoria is the largest lake in Africa, boarded by Kenya, Tanzania and Uganda. Lake side communities rely on fishing industry, but the risk of drowning among fishermen is high.

Aim: To understand fishermen and other community members' perceptions about risky fishing behaviours/practices on Lake Victoria.

Methodology: We conducted semi-structured in-depth interviews (IDIs) and focus group discussions (FGDs) with fishermen and other community members between September 2017 and February 2018 in eight communities on the Tanzanian shore of Lake Victoria. Data were analysed thematically using NVivo 11.

Results: Results from 30 IDIs and six FGDs highlighted five commonly perceived risk-taking behaviours and practices among fishermen: fishing in bad or unpredictable weather conditions, fishing in poorly maintained and/or small boats, fishing under the influence of alcohol or drugs, non-use of life jackets, and inability to swim. The majority of participants reported that a lack of access to, and the high cost of life jackets were the main reasons that fishermen often do not wear life jackets even if they are available. Participants recommended training in swimming and rescue skills among fishermen.

Conclusion: Risky fishing behaviours and practices were common among fishers in Tanzanian communities on Lake Victoria.

Recommendations: Interventions strategies focused on promoting safety on water culture are warranted.

SUBTHEME: RISK FACTORS AND BURDEN OF NCDs AND RELATED COMORBIDITIES; FOCUS FOR ADVOCACY PREVENTION AND STAKEHOLDERS' ENGAGEMENT STRATEGIES

1. Serum Gonadal Hormones Levels and Hypogonadism in Antiretroviral Therapy-Naïve Newly Diagnosed HIV Infected Adult Males in Mwanza, Tanzania

Authors: Shabani Iddi, Haruna Dika, Benson Kidenya, Samuel Kalluvya

Affiliation: Catholic University of Health and Allied Sciences

Background: Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is an endemic chronic disease characterized with progressive depletion of CD4 cells and increased vulnerability to opportunistic infections. Previous studies have associated HIV infection with increased hypogonadism. However, the prevalence of hypogonadism remained poorly defined and widely ranging in various studies.

Aim: To evaluate serum gonadal hormonal levels and hypogonadism in Antiretroviral Therapy (ART) naïve HIV infected males in Mwanza, Tanzania.

Methodology: This was a comparison study involving 81 ART naïve newly diagnosed HIV-infected adult males as study group and 81 apparently healthy HIV-negative males matched by body mass index and age as comparison group. Serum hormones (testosterone, follicle stimulating hormone (FSH), luteinizing hormone (LH) and estradiol] were estimated. Serum testosterone 300 ng/dl with high LH and FSH (compensatory hypogonadism) were taken as markers of hypogonadism. Data were analyzed using STATA version 15.

Results: The median serum testosterone level among the HIV-infected males was significantly lower as compared to their comparison group (447 [259 – 534] versus 517 [396 – 605]; $p=0.0074$) and shown to decrease with decreasing CD4 level. The median [IQR] serum FSH level among HIV-infected males was significantly higher than among their comparison group (3.8 [2.1 – 6.5] versus 2.6 [1.8 – 4.2]; $p = 0.0086$). The differences in serum LH and Estradiol were not statistically significant. Furthermore, the proportion of hypogonadism was significantly higher among the HIV-infected males than in their comparison group (37.0% [30/81] versus 14.8% [12/81]; $p = 0.0006$).

Conclusion: HIV is associated with changes in gonadal hormones which may lead to sexual dysfunction in infected individuals.

Recommendation: Routine screening for gonadal functions and institution of appropriate replacement treatment in HIV care

2. Self-Care Behavior of People Living with Diabetes Mellitus (DM) in Dar es Salaam, Tanzani

Authors: Charles Marwa, Dube Luyanda

Affiliation: Muhimbili University of Health and Allied Sciences, University of South Africa

Background: Diabetes Mellitus (DM) is recognized as a global health problem being the major cause of morbidity, mortality with an estimation of 437 million in 2030. Good self-care behavior is vital in management of DM for prevention of the disease related complications.

Aim: To assess self-care behavior among people living with DM in Dar es Salaam, Tanzania.

Methodology: A hospital-based cross-sectional study was conducted in 3 public regional referral hospitals (RRHs) between July to September 2021. Data were collected using questionnaire, a descriptive statistics analysis was performed using SPSS Version 24.0. Ethical clearance was obtained from UNISA and MUHAS Ethics Review Committees.

Results: A total of 333 people living with DM were enrolled in the study with a response rate of 97%. The mean age of the respondents was 53 years with Standard Deviation (SD) of ± 14.5 . About 40.9 % ($n=132$) of respondents were in the age group ≥ 59 years old and 235 (72.8%) of them had primary education. Most of the respondents, 243 (75.2%) exhibited low self-care behavior whereas 252 (78.0%) respondents had poor uptake of self-healthcare activities. There was positive correlation ($r=0.804$) between self-care behavior and uptake of self-care behavioral activities, and the association was statistically significant ($P=0.00$). Poor economic status and inadequate social support were the major reasons for not adhering to self-care practice.

Conclusion: The study found low level of self-care behaviors and poor uptake of self-care behavior activities.

Recommendation: Tools for self-management should be available to patients to support self-care behavior for successful treatment.

3. Prevalence of Overweight, Obesity and Relationship with Hypertension among Adult Population of Urban Mwanza: A Community-Based Approach

Authors: Mirumbe Winani, Deodatus Mabula, Stephen Nyagonde, Evarist Msaki

Affiliation: Bugando Medical Center

Background: Low and-middle income countries particularly in urban settings are vulnerable to a rapid upsurge in overweight and obesity, but population-based studies are limited. This research aimed at unfolding the current prevalence of overweight and obesity and their implication on hypertension among adult population in a community setup of urban Mwanza, Tanzania.

Aim: To determine the prevalence of overweight and obesity and relationship with hypertension among adult population of urban Mwanza.

Methodology: A population based cross-sectional study was conducted in the urban areas in Mwanza in February 2021. Data was collected through key informant interviews and clinical methods. For the survey, overweight and obesity were defined as BMI:25-29.9 kg/m² and ≥30 kg/m² respectively. Assessment of hypertension was defined as a single blood pressure ≥160/100 mmHg, a two-time average of ≥140/90 mmHg or current use of antihypertensive medications. Hypertension awareness was defined as a self-reported disease history in a participant with confirmed hypertension.

Results: A total of 417 clients were enrolled. The overall prevalence of high BMI in this study was 42% (n=172) whereby; overweight was 25% (n=103), and obesity was 17% (n=69). Female obesity was 11.03% (n=46) male obesity 5.52% (n=23). A significant risk factor for obesity was lack of vigorous physical activities in clients' daily routine 68.8% (n=287). Prevalence of hypertension was 21.58% (n=90), and that of pre-hypertension was 34.29% (n=143). There was an exponential correlation between BMI and blood pressure P<0.001. Among the clients diagnosed with HTN 66.67% (n=60) were not aware of the hypertensive status, 82.2% (n=74) were not on treatment and 86.67% (n=78) were not attending clinic.

Conclusion: Overweight, obesity and hypertension are highly prevalent in the adult population of urban Mwanza, yet many patients are undiagnosed and hence treatment is limited.

Recommendation: Community education about weight control and promotion of health seeking behaviour is of essence.

4. High Levels of Unhealthy Fatty Acids in Popular Edible Oils, Street and Fast Foods in Tanzania: A Desperate Need for Good Practice Policies to Regulate Food Products in Tanzania

Authors: Fredirick Mashili, Hassan Rusoby, Cleopatra Justine, Kaushik Ramaiya and Walter Willet

Affiliation: Muhimbili University of Health and Allied Sciences

Background: Compelling evidence links high consumption of unhealthy fatty acids (saturated and trans fatty acids) with cardiovascular events, diabetes, and cancers. Despite the health consequences caused by high consumption of these fat acids, their levels in commonly consumed edible oils and foods have never been assessed in Tanzania.

Aim: This study aimed at assessing levels of fatty acids (FA) in commonly consumed edible oils, street, and fast foods in Tanzania.

Methodology: We adopted the roadmap from the WHO REPLACE package to strategically select edible oils and foods that are commonly consumed in Dar es salaam and Zanzibar. Gas chromatography (GC) with 100-m column was used to separate and measure the levels of individual FA present in samples of fat that were extracted from edible oils and foods.

Results: A total of 100 edible oils, street and fast foods were identified as commonly consumed products in Dar es salaam and Zanzibar. Fat content in foods ranged from 3% to 44%. Levels of saturated fatty acids (SFA) ranged from 36% to 49.3% of total FA content in foods, and from 11% to 96% of total FA content in edible oils. Apart from butter which contain natural trans fatty acids (TFA), 3 popular and commonly consumed edible oils, contained more than WHO-recommended levels of TFA. Coconut had the highest and the lowest levels of saturated and unsaturated fatty acids respectively.

Conclusion: Given their profile in popular food products, consumption of unhealthy FA is likely high in Dar es salaam and Zanzibar. Despite the global target to eliminate industrially produced TFA by the year 2023, products with higher than recommended levels of TFA are still available in the Tanzanian food supply chain. Coconut, a popular ingredient in most foods in Tanzania contains predominantly SFA and very little mono and polyunsaturated FA.

Recommendations: More studies are needed to assess the levels of fatty acids, especially trans fatty acids in a variety of food products and human blood. Strategies to regulate and control the consumption of unhealthy fats are mandated.

5. Prevalence, patterns and factors associated with undernutrition among children with congenital heart disease attending at Bugando Medical Centre in Mwanza, Tanzania

Authors: Elice F. Mnunga, Delfina R. Msanga, Neema Kayange, Maimuna Ahmed, Julieth Kabirigi, Respicius C. Bakalemwa, Benson R. Kidenya, Festo Manyama, Tulla S. Masoza

Affiliation: Catholic University of Health and Allied Sciences

Background: Undernutrition is common among children with congenital heart diseases (CHD) and has been associated with significant morbidity and mortality. Assessment of nutrition status is very important among children with CHD however it is rarely done, this study therefore aimed at determining the magnitude, patterns and factors associated with undernutrition among children with CHD.

Aim: To determine the prevalence of undernutrition. To determine the patterns of undernutrition. To determine factors associated with undernutrition among children with CHD who attended BMC in Mwanza, Tanzania.

Methodology: This was hospital based cross sectional study which involved children with CHD aged from 6months to 15 years who attended Bugando Medical Centre from November 2021 to April 2022. Nutritional assessment was done following measurements of weight, height/length. Appropriate WHO Z scores and BMI for age-z-score for children 5 years and above were used to assess for presence of underweight, wasting and stunting where a score of $\leq 2SD$ was considered to be undernourished. Questionnaires were used to collect demographic, dietary history and other clinical information. Data was statistically analysed in STATA version 15.

Results: A total of 203 children with CHD were enrolled into the study, their mean age was $38.9 \pm 37.9SD$. Prevalence of wasting, underweight and stunting was 53.2%, 66.9% and 66% respectively with 36.5% presenting with concurrent wasting, underweight and stunting. Multivariate logistic regression showed family size >5 people, (OR 2.4; [95% CI: 1.3 – 4.6], p-value 0.008), parental revenue < 1 dollar per day (OR 2.9; [95% CI: 3.4 – 6.0], p-value 0.005), inadequate dietary intake (OR 8.8; [95% CI: 2.3 – 29.6], p-value < 0.001), living in rural residence (OR 2.9; [95% CI: 1.5 – 5.5], p-value 0.001) and heart failure (OR 2.1; [95% CI: 1.2 – 3.8], p-value 0.027) were associated with wasting. Inadequate dietary intake (OR 22.1; [95% CI: 5.9 – 82.6], p-value < 0.001), cardiac surgery not being done, (OR 4.3; [95% CI: 1.3 – 14.8], p-value < 0.001) and heart failure (OR 2.4; [95% CI 1.1 – 5.4], p-value 0.023) were associated with underweight and inadequate dietary intake (OR 4.2; [95% CI: 1.6 – 11.2], p-value 0.003) and delayed cardiac surgery (OR 5.6; [95% CI: 1.8 – 16.9], p-value 0.002) were associated with stunting among children with CHD.

Conclusion: This study highlighted a high prevalence of undernutrition among children with congenital heart disease attending Bugando Medical Centre warranting thorough nutritional assessment, counselling and treatment during routine clinic visits.

Recommendation: Early diagnosis of congenital heart disease will enhance early intervention to prevent undernutrition and its consequences. Nutritionist specific for children with congenital heart disease to be attached to cardiology unit in pediatrics department.

6. Knowledge and Burden of Cardiovascular Risk Factors among Arusha Residents: A Community-Based Survey

Authors: Peter Kisenge, Pedro Pallangyo, Zabella Mkojera, Makrina Komba, Smita Bhalia, Janeth Mmari, Happiness Swai, Loveness Mfanga, Bridget Ndumbaro, Mohamed Aloyce.

Affiliation: Jakay Kikwete Cardiac Institute

Background: It is evident that health literacy of CVD risk factors plays a considerably effective role in preventing or delaying the onset of disease as well as in impacting the efficacy of their management. Likewise, persons with low functional health literacy have been associated with diminished use of the health system, less likelihood of engaging in health-promoting behaviors and poorer overall health outcomes.

Aim: In view of the rapidly rising NCDs/CDVs, we conducted this community-based survey to assess for CVD risk knowledge and its associated factors among Arusha residents.

Methodology: A total of 947 residents were consecutively enrolled during the World Hear Day commemoration in Arusha city. An adopted questionnaire consisting of 22 statements assessing various CVD risk behaviors was utilized for assessment of knowledge. Logistic regression analyses were performed to assess for factors associated with poor knowledge of CVD risks.

Results: The mean age was 42.9 years and women predominated (59.8%). Nearly two-thirds had a body mass index (BMI) ≥ 25 kg/m², 33.5% were alcohol drinkers, 5.2% were tobacco users, and 28% were physically inactive. About a half of all individuals had elevated blood pressure and 16.8% had high glucose levels. The mean score was 68.9 and 73.0% had good knowledge of CVD risks. About 25.8% believed CVDs are diseases of affluence, 28.4% thought CVDs are not preventable, and 66.7% had a perception that CVDs are curable. Low education (OR 3.3, 95%CI 2.9–3.7, $p < 0.001$), lack of health insurance (OR 1.9, 95%CI 1.3–2.5, $p = 0.02$), and negative family history of CVD death (OR 2.7, 95%CI 2.1–3.3, $p < 0.001$), were independent predictors of poor CVD knowledge.

Conclusion: A disconnection between individual's knowledge and self-care practices was apparent in this present study.

Recommendation: These findings call for implementation of wide-spread and effective educational initiatives aiming at mitigating the community's practices towards cardiovascular risk factors.

7. Incidence And Progression of Chronic Kidney Disease among Adult Patients Attending Medical Outpatient Clinics in Tertiary Academic Hospitals in Dodoma, Tanzania

Authors: Denis D. Katatwire, Alfred J. Meremo

Affiliation: Department of Internal Medicine, School of Medicine, The University of Dodoma, Dodoma, Tanzania, Department of Internal Medicine, The Benjamin Mkapa Hospital, Dodoma, Tanzania, Department of Internal Medicine, Dodoma Regional Referral Hospital, Dodoma, Tanzania

Background: The burden of chronic kidney disease (CKD) is increasing leading to further increased burden of non-communicable diseases (NCDs) which are associated with high morbidity and mortality. Patients with CKD in developing countries present late for treatment which eventually ends up with poor kidney and cardiovascular outcomes.

Aim: The aim of this study was to determine the incidence, predictors and outcomes progression of chronic kidney disease among adult patients attending medical outpatient clinics in Dodoma, Central Tanzania.

Methodology: A prospective longitudinal study whereby adults with early-stage CKD attending medical outpatient (MOPD) clinics at two tertiary hospitals in Dodoma from November 2020 to March 2022 were enrolled for 4 months and then followed up for one year. Baseline and clinical data were extracted from patient files as well as measurements of vital signs, patients provided

urine and blood samples for laboratory investigations at enrolment and after 12 months of follow-up. Descriptive and inferential statistics were performed using SPSS software version 26.

Results: A total of 352 participants with median age of 54(47-59) years were enrolled, majority 182(51.7%) were males, married 252(71.6%), living in urban 205(58.2%) and self-employed 228(64.8%). Majority 206(58.5%) were hypertensive, 165(46.9%) were diabetic, 229(65.1%) were overweight/obese and 288(81.8%) were in CKD stage 3. Few 6 (1.7%) participants were lost to follow up and 346 (98.3%) completed follow up. The incidence of CKD progression was 28.03%, predictor variables independently associated with CKD progression after multivariate logistic regression analysis were Diabetes mellitus (OR =7.02, 95% CI 3.01-16.39, P=<0.001), Use of local herbs (OR=27.98, 95% CI 11.08-70.70, P=<0.001), Anemia (OR=2.49, 95% CI 1.32-4.68, P=0.005), significant proteinuria (OR=7.51, 95% CI 3.49-16.19 P=<0.001). Of the 97 participants with progression of CKD, 67 (69.1%) had evidence of cardiovascular diseases (CVDs), 40 (41.2%) new onset/worsening anemia, 10(10.3%) had end stage renal disease (ESRD) and 11(11.3%) died.

Conclusion: The incidence of CKD progression among patients with early-staged CKD is high in our setting and significant predictors of CKD progression included diabetes mellitus, proteinuria, anemia and use of local herbal medicines.

Recommendation: Patients who present with early-stage CKD should be referred for nephrology care, where exhaustive evaluation to recognize risk factors for CKD progression will be performed.

8. Orthopedic injuries in a Tanzanian Emergency Department

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Background: Injuries are a leading cause of death and disability in lower and middle-income countries (LMIC). Orthopedic injuries require longer rehabilitation periods and are linked to an increased financial burden on the patient and the health system.

Aim: To describe the characteristics of adult orthopedic injury patients presenting to a tertiary referral hospital in Moshi, Tanzania.

Methodology: We analyzed a registry consisting of adult patients admitted to the Kilimanjaro Christian Medical Centre between April 2018 and August 2020. Variables collected included mechanism of injury, mode of transportation at the time of injury, and length of hospital stay. The injuries of participants who required surgery for fractures were classified by two independent physicians. The association between the types of fractures and other variables was tested using Wilcoxon rank sums, Pearson's Chi-squared, and Fisher's exact tests. All analyses were performed using R Software for Statistical Computing.

Results: Out of the 1434 patients in the registry, 689 (48%) required surgery for any type of fracture. The tibia (251, 36%) and femur (205, 30%) were the bones most frequently fractured. Among the participants injured in a road traffic incident, pedestrians or individuals riding bicycles experienced significantly more fractures in long bones (98%) compared to drivers or passengers (86%) ($p < 0.05$). Long bone fractures increased the median length of hospital stay by 5 days compared to not-long bone fractures (10, 5-21 IQR vs. 5, 3-8 IQR, $p < 0.001$). Finally, follow-up consultations (i.e., physical therapy and orthopedics) were more frequently required for patients that had fractures, especially in long bones.

Conclusion: As injuries disproportionately burden LMICs, it is essential to understand the characteristics of patients affected so effective acute and follow-up management can be done. Associations were found between the mechanism of injury, patient occupation, and type of bone affected with length of hospital stay.

Recommendations: Future research investigating injury populations in Tanzania is required to substantiate these results.

SUBTHEME: TECHNOLOGY

1. Performance of HPV Testing, Pap Smear and VIA in Women Attending Cervical Cancer Screening in Kilimanjaro Region, Northern Tanzania: A Cross-Sectional Study Nested in a Cohort

Authors: Alex Mremi, Bariki Mchome, Joseph Mlay, Doris Schledermann, Jan Blaakær, Vibeke Rasch

Affiliation: Department of Pathology, Kilimanjaro Christian Medical Centre, Moshi, Tanzania, Department of Obstetrics and Gynecology, Kilimanjaro Christian Medical University College, Moshi, Tanzania, Department of Obstetrics and Gynecology, Kilimanjaro Christian Medical Centre, Moshi, Tanzania, Department of Pathology, Odense University Hospital, Odense, Denmark, Department of Clinical Research, University of Southern Denmark, Odense, Denmark, Department of Obstetrics and Gynecology, Odense University Hospital, Odense, Denmark

Background: Tanzania has one of the highest cervical cancer burdens globally. There is a concern about performance of the screening approaches, where information on the quality of novel and affordable screening approaches that will perform well in remote areas is warranted. This lack of

information makes it difficult to prioritize resource use in efforts to improve cervical cancer outcomes.

Aim: We aimed to compare the diagnostic value of HPV testing on self-collected samples, Pap smear and VIA tests for detection of high grade cervical intraepithelial neoplasia or worse (CIN2+).

Methodology: A cross-sectional study nested in cohort was conducted in Kilimanjaro. Women were invited to the primary health care centers, underwent HPV self-sampling with Evalyn Brush® and CareHPV kit assay was used to determine prevalence of high-risk HPV infection. Women with positive HPV test together with a random sample of HPV negative women were scheduled for a follow up visit where VIA was performed, and Pap smear and cervical biopsies obtained.

Results: Of 1620 women enrolled, 229 (14.1%) were HPV positive and 222 of these attended follow up together with 290 (20.8%) women with negative HPV test. On histological evaluation of the cervical biopsies, 12.5% of the women were classified as CIN2+. On VIA, 17.6% were positive. On Pap smear, 14.6% % were classified as LSIL and 8.0% HSIL. The sensitivity and specificity, respectively, of the various tests, compared to histopathology for the detection of CIN2+ were: HPV test 62.5%, 59.3%; Pap smear 82.8%, 82.1% and; VIA 48.4%, 56.8%. When combined, the sensitivity and specificity for HPV and Pap smear were 90.6%, 70.6% while HPV and VIA were 65.6% and 75.5% for the detection of CIN2+ with histopathology used as golden standard.

Conclusion: The performance of care HPV testing on self-collected vaginal samples opens the possibility of increasing coverage and early detection in resource-constrained settings.

Recommendation: We strongly recommend the inclusion of HPV DNA detection using self-collected samples among both the general population of women and those who are HIV-infected as a primary screening test in part of a screen-and-treat approach or a screen, triage and treat approach because of its higher performance value compared with VIA so as to reduce cervical cancer burden in this country. This is partly because self-sampling is largely acceptable to Tanzanian women, is feasible and is more likely to lead to more equitable access to screening. • Furthermore, HPV self-sampling promotes safety amid the prevailing COVID-19 pandemic at busy clinics as it limits the risk of SARS-CoV-2 transmission by avoiding social crowding.

2. The Value of Point of Care Lung Ultrasound to Diagnose Pulmonary Diseases in A Rural, Sub-Saharan African Setting: A Cross-Sectional Study

Authors: Andrew Katende, Johanna Oehri, Victor Zablou Urio, Evance Mahundi, Victor Myovela, Lulu Wilson, Dominick Raphael, Chipegwa Mlula, Christamonica Chitimbwa, Maja Weisser, Daniel Paris, Martin Rohacek

Affiliation: Ifakara Health Institute

Background: Point of care ultrasound has gained importance as a diagnostic tool over the last years. However, the role of portable ultrasound devices has not yet been studied in rural sub-

Saharan Africa. We aim to compare LUS performance of pocket ultrasound devices used by trained clinicians to LUS done by an expert sonographer using a standard of care ultrasound machines.

Aim: We aim to compare LUS performance of pocket ultrasound devices used by trained clinicians to LUS done by an expert sonographer using a standard of care ultrasound machines.

Methodology: This was a cross-sectional study performed at the St Francis Referral Hospital (SFRH), Ifakara, Tanzania. Patients clinically suspected to have respiratory or cardiovascular disease were enrolled. All participants received a LUS first using a pocket device by a trained clinician and then a LUS with a certified sonographer using the standard of care ultrasound machine, a physician with access to all other indicated investigation made the final diagnosis. The agreement and inter-rater reliability between the certified sonographer and the of the trained clinician using pocket device was calculated.

Results: Preliminarily we have enrolled 250 participants. The median age was 52 years IQR (37-66), 119 (47.6%) were female, and 124 (49.6%) had a normal body mass index. Nearly half, 113 (45.2%) were hospitalized patients and 25 (10%) had HIV infection, 82(32.8%) had previously known chronic respiratory disease, while 68 (27.2%) had a cardiac disease. Majority presented with cough 232 (92.8%), and by dyspnea 198 (79.2%). The percentage agreement for the diagnosis made by clinician using pocket device and that of sonographer using standard of care was, 64.8%, kappa 0.31, for Tuberculosis, 74%, kappa 0.48 for Heart failure, 88% kappa 0.22 for COPD with cor-pulmonale. The commonest physician final diagnosis was Bacterial pneumonia, 144 (57.6%), heart failure 120 (48%) and tuberculosis 102 (40.8%).

Conclusion: Lung ultrasound using a Pocket device can be used in limited resource settings by trained clinician that are not certified sonographers especially in settings with no enough certified sonographers and standard ultrasound machines.

Recommendations: Pocket device Ultrasound machines are reliable, affordable, mobile and cheap therefore can be used by trained clinicians to quicken in the diagnosis and management process of patients. If rolled out, they can reduce on the waiting hours and number of the patients to be seen by the already few certified monographers to diagnose common respiratory and cardiac diseases.

3. Geospatial Distribution, Pattern, and Associated Factors of Cancer among Patients Attending Bugando Medical Centre, North-Western Tanzania

Authors: Alen A. kanjanja, Elias C. Nyanza, Nestory Masalu, Kristin Schroeder

Affiliation: School of public health, Catholic University of Health and Allied Sciences, Mwanza, Tanzania, Department of Environmental and Occupational Health, Catholic University of Health and Allied Sciences, Mwanza, Tanzania, Department of Oncology, Bugando Medical Center, Mwanza Tanzania, Pediatric Oncology and Global Health, Duke University Durham, NC USA

Background: Cancer is ranked high in causing mortality and morbidity among non-communicable diseases with 10 million deaths annually. Epidemiological reports on cancer

burden show a large heterogeneity by region, reflecting variation in potential environmental exposure, social economics, access to medical care and screening. this study was looking on the Geospatial distribution of cancer in Lake zone North-western Tanzania.

Aim: This study aimed to determine the geospatial distribution, patterns, and associated factors of cancer patients from the Lake Zone communities attending Bugando Medical Centre in Northern Tanzania by using the Mwanza cancer registry (MCR).

Methodology: This was a retrospective, cross-sectional hospital-based study involving 3697 participants from the MCR histologically confirmed diagnosis. Stata version 15 and QGIS version 3.24.1 was used in Data analysis and geospatial studies respectively.

Results: The majority of the participants 1,274 (34.5%) were aged between 52 and 68 years with median age 53(IQR: 39-65) years. The leading cancers among participants were cancer of cervix uteri, prostate, breast, head & neck, and cancer of the oesophagus. Cervix-uteri and prostate cancer were more prevalent among females aged 52-68 (aPR = 1.54, 95% CI = 1.21-1.78) and males aged 69-98 (aPR = 1.75, 95% CI = 1.12-1.99) respectively. Patients coming from Shinyanga, Geita, and Tabora districts had significantly higher proportions of cervix uteri cancers than the remaining areas. Furthermore, patients from Kahama district had 76% higher proportions of prostate cancer (aPR = 1.76, 95%CI = 1.32-1.97) as compared to other districts. Furthermore, a significant number of cancer cases were observed in individuals below 20 years of age.

Conclusion: Cancer of cervix-uteri and prostate cancer are the leading diagnosed malignancies in Lake Zone and the disease is unevenly distributed with hotspots for different types of cancer.

Recommendation: From the geospatial distribution and pattern of the disease, some districts are reported to have a high and others a low number of cancer cases. This highlights the high need for targeting hotspot areas with more studies to delineate other predictors and causal relationships for the occurrence of such types of cancer and to consider the findings in the planning of strategies to combat the disease.

4. Food Wastes Management on Non-communicable Diseases Prevention Approach: The Case of Tanzanian Students

Authors: Ulumbi Kilimba, Engin Byesn

Affiliation: Near East University, Muhimbili National Hospital

Background: Non-Communicable Diseases (NCDs) are conditions that also threaten young people between the age of 30-70 years. Common risk factors are social-behavior changes and metabolic syndromes. But recently, climate change effects have been mentioned, such as raising food waste generation.

Aim: To assess the level of knowledge on food waste management on NCDs prevention perspective approach among students.

Methodology: A cross-sectional design study was conducted in Dar-es-salaam, Tanzania, and a purposive sampling method was applied to recruit the participants. A 5-Likert scale questionnaire was used for data collection. Data were collected from July to September 2021. The filled SPSS computer -20 version software was applied during ordinal regression analysis. Statistical data were presented in tabulation and frequency, while the Inferential data were in median and Interruption rates (IQR).

Results: A total of 600 participants were selected. The majority of the participants were in a middle age group, between 18-19 years. Furthermore, about 87% of the participants were advanced students while 45% were science students while about 55% were female and 45% male. The variables assessed included improper household food budget as a source of food waste generation (67.4%), food low (67.3%), food policy (58.2%), nutrition analysis (55.0%), food handling (63.7%), storage (57.7%), harvesting (57.9%), and transportation (54.9%). To these variables, each had a median of 4 and an IRQ of 4. This means the participants had average knowledge.

Conclusion: According to NCD's situation in Tanzania, the young people regardless of age, sex, education level, and subject specialization need comprehensive training at all levels of education.

Recommendation: The study suggested a curriculum review at all levels of education and food waste management program in education centers where there are students. adoption of reviewed NCDs- strategic action plan 2023-2030. Multisectoral collaboration on NCDs matters as more research is conducted.

SATELLITE SESSIONS

Satellite Session 2b (Kibong'oto)

TOPIC: INTEGRATION OF INFECTIOUS DISEASES AND NON-COMMUNICABLE DISEASES:

MODELS AND LESSONS IN TANZANIA

VENUE: 2

TIME: 11.05 – 12.35

CHAIRPERSON: DR. STELLA MPAGAMA

RAPPORTEUR: JANETH PETER

Topic	Presenter/Speaker
Burden of NCDs amongst People Living With HIV/AIDS: fact or fiction	Prof. Ramaiya Kaushik
Models and Lessons learnt: Integration of HIV and Non-Communicable Diseases, with examples from Tanzania	Dr. Albino Kalolo
Burden of Chronic Obstructive Pulmonary Disease in previous TB treated population	Dr. Florence Mtei

Lessons learnt: Molecular Technologies for differentiating Chronic Obstructive Pulmonary Disease in previous TB treated population and recurrent pulmonary TB	Dr. Peter Mbelele
Clinical outcomes of individuals with Chronic Obstructive Pulmonary Diseases (COPD) related to Tuberculosis	Dr. Bibie Said
Using research capacity strengthening models to enhance integration of communicable and non-communicable diseases. Lessons the EDCTP-2 Senior Research Fellowship	Prof. Stellah Mpagama
Discussion	All

Satellite Session 2a (Mental Health)

<p>TOPIC: CHILD AND ADOLESCENT MENTAL HEALTH</p> <p>VENUE: 3</p> <p>TIME: 11.05 – 12.35</p> <p>CHAIRPERSON: DR. SAMUEL LIKINDIKOKI</p> <p>RAPPORTEUR: HUMPHREY SHOO</p>

Topic	Presenter/Speaker
Introductions, welcoming remarks, and overview	Dr. Samuel Likindikoki
Parenting and mental health	Ms. Hilda Lukiza
Girls' Mental Health in Schools	Ms. Nchambi Nangale
Child And Adolescent Mental Health for Child with Special Needs	Mr. Godfrey Kimati
The roles of CSOs in provision of child and adolescent mental health services	Bi. Faraja Nyarandu
Young people opinions about mental health	Mr. Mbelwa Gabagambi
Panel Discussion	Panellists
Way forward taking the bold actions	Dr. Samuel Likindikoki

Poster presentations: Day 1

#	Presenter	Title
1.	Victor William Katiti	A qualitative study of capabilities associated with quality of life in Tanzania and Malawi
2.	Nuruel Kitomary	Functional consequences of severe mental illnesses in daily life among Tanzanians; a case of functional disability among patients with schizophrenia at Muhimbili national hospital.
3.	Deogratius L. Massawe	Ethnomedical Uses of Spices at Stone Town in Zanzibar
4.	Janeth Mmari	Takayasu Arteritis mistaken for Epilepsy: A Case presenting with Convulsive Syncope.
5.	Baraka Max	Banana Products: Perspectives on Their Use for Preventing and Managing Type-2 Diabetes in Tanzania

6.	Janice Maige	Research Capacity Monitoring and Evaluation System: A robust dynamic web-based application for measuring the impact of research capacity strengthening initiatives.
7.	Nateiya M Yongolo	Prevalence associated factors and disability impacts of musculoskeletal joint problems in the community setting in Hai district, northern Tanzania
8.	David G Paulo	Maternal Risk and Contraception among Women of Child-Bearing Age with Rheumatic Heart Disease Attending Care at Jakaya Kikwete Cardiac Institute
9.	Musa Wambura	Factors Influencing Intention to Receive COVID-19 Vaccine among Patients attending for Outpatient Services at Mwananyamala Hospital Dar es Salaam Tanzania: An Application of Extended Theory of Planned Behavior
10.	Denis Juma	The Challenges to Tackling the Burden of Non-Communicable Diseases in Sub Saharan Africa Countries: A Public Health Report
11.	Ruzige Christian	Predictors of short-term treatment outcomes among referred emergency general surgery patients admitted at Bugando medical Centre, Mwanza, Tanzania
12.	Omary Nassoro	uptake and associated factors of cervical cancer screening services among women attending at reproductive and child health clinic in Dodoma municipal council
13.	Hija Hamadi	Factors associated with short term surgical outcomes among women presenting with pelvic peritonitis attending Bugando Medical Centre
14.	Mremi A	Prostate cancer knowledge/awareness among at risk African men in Northern Tanzania: A community survey
15.	Luco Patson Mwelange	Common and emerging cancer risk factors for the past twenty years, from 2000 to 2020
16.	Sanjura Biswaro	Trends of frequency, mortality and risk factors among patients admitted with stroke from 2017 to 2019 to the medical ward at Kilimanjaro Christian Medical Centre hospital: a retrospective study
17.	Valeria Silvestri	Snakebite and arterial lesions: a review of cases in literature
18.	Denis Katatwire	High prevalence of uncontrolled hypertension among patients with early chronic kidney disease attending tertiary hospitals in Dodoma, Tanzania
19.	Dunstan Bishanga	Knowledge, Attitude and Practice on Cancer Among Community and Health Care Providers in Dar es Salaam and Mwanza Regions
20.	Sweetness Laizer	Indicators of optimal diabetes care and burden of diabetes complications in Africa: A systematic review and meta-analysis

21.	Upendo Asajine	Prevalence, dietary adherence, and factors associated with Malnutrition Inflammation Complex Syndrome among patients on hemodialysis in Northern Tanzania.
22.	Isaac Mwambe	Association between lifestyle and occurrence of type two diabetes mellitus among adults in Dodoma region
23.	Ashraf Mahmoud	The impact of COVID-19 on patients with neurological disorders and their access to healthcare in Africa: A review of the literature
24.	Thadeus Mshana	Clinical presentation and factors associated with keratoconus among patient attending Kilimanjaro Christian Medical Centre eye department
25.	Tunzo Mcharo	Experience of Family Caregivers in Caring for Patients With Heart Failure at Jakaya Kikwete Cardiac Institute, Dar Es Salaam, Tanzania
26.	Elizabeth F. Msoka	Understanding and Responding to Joint Pain in Kilimanjaro: A rapid ethnographic assessment
27.	Timothy Antipas Peter, Getrude Nkini	Effect of social determinants of health on outcomes of pediatric injury patients in Northern Tanzania
28.	Charles Mashaka	Prevalence, factors and histological features of incidental prostate cancer among patients undergoing Transurethral Resection of the Prostate at Kilimanjaro Christian Medical Centre, Northern Tanzania
29.	Hoyce Amini Mshida	Prevalence of Overweight and Obesity and its associated risk factors among Women of Reproductive Age in Tanzania: An analysis of the Tanzania Demographic Health Survey of 2015/16
30.	Epifania Nyaki	Experience of primary caregivers in caring for stroke survivors at home following discharge from Muhimbili national hospital, Dar es salaam Tanzania
31.	Leticia Kalumbilo	Prevalence and risk factors of brain atrophy and associated confusion state among adults from three hospitals in Northern-Tanzania
32.	Ngwigulu Malaja	Non-adherence to guideline – recommended secondary antibiotic prophylaxis among Rheumatic Heart Disease Patients
33.	Alen A Kanjanja	Geospatial distribution, pattern, and associated factors of cancer among patients attending Bugando Medical Centre, north-western Tanzania
34.	Mussa K. Nsanya	High Blood Pressure Among Adolescents in Sub-Saharan Africa: A Systematic Review
35.	George PrayGod	β -cell dysfunction and insulin resistance in relation to prediabetes and diabetes among adults in Mwanza, Tanzania

36.	Pedro Pallangyo	A case of spontaneous recanalization following subtotal proximal-LAD occlusion: Nature or Witchcraft?
37.	Anna Kasililika	Fertility care in a patient with Breast cancer in pregnancy: A case report.
38.	CLEMENT NDAHANI	Fistula Reintegration Program: Experiences of women treated of fistula at CCBRT
39.	Sanaa S. Said	Experiences from a Rheumatology Clinic in Zanzibar: A Retrospective Review
40.	Elizabeth F. Msoka	Patients Perspectives on Late Diagnosis of Breast Cancer in Northern Tanzania: The Role of Traditional Healers
41.	Malale Tungu	Health care prioritisation process for the elderly in rural Tanzania under decentralised health system: prospects and challenges
42.	Smita Bhalia	The Dawn of Electrophysiology in Tanzania: Lessons from a case of PVC-induced cardiomyopathy.
43.	Jacqueline G. Shoo	An Emerging Need for Developing Onconeurology in Low-Income Settings: A Case of Tanzania
44.	Hilda J. Tutuba	The Efficacy of Maternal Health Education and Maternal Screening on Knowledge and The Uptake of Infant Screening for Sickle Cell Disease in Dar es Salaam, Tanzania; A Quasi Experimental Study
45.	Nadia Ahmed	
46.	Sifa Susan Hyera	
47.	Brenda Kitilya Makalla	
48.	Linda Paulo	
49.	Ngowi	
50.	Joshua Duma	
51.	Theresia A. Ottaru	
52.	Nadia Ahmed	

Poster presentations: Day 2

#	Presenter	Title
1.	Asteria L. M. Ndomba	Quality of life among out-patients with long-term indwelling urinary catheter attending Urology Clinic at a Tertiary Hospital in Northwestern Tanzania
2.	Leticia Kalumbilo	Prevalence of brain atrophy, the associated symptoms, and the risk factors among adults in northern tanzania.
3.	Alexis M. Davis	Hip Hop as a Mental Health Intervention and Prevention tool for Urban Youth and Families in Tanzania
4.	Abdulkarim Khalfan Nyambi	Assessment of Knowledge and attitude of couples on factors associated with depression; a consequence to morbidity and suicidal behavior among couples in Mwanza Region-Tanzania

5.	Antelmo Haule	Digital laboratory specimen bio-banking and electronic temperature monitoring systems- sharing experience from NIMR-Mbeya
6.	Baraka Max	Banana Products: Perspectives on Their Use for Preventing and Managing Type-2 Diabetes in Tanzania
7.	Shabani Urassa	Histopathological evaluation of microtomy artifacts at Bugando medical center
8.	Lulu Shaabani Ngume	Formulation and assessment of the nutritional quality of qualea bird meat-based complementary foods to children aged 6 to 23 months in Dodoma, Tanzania using a linear programming technique
9.	Elias C. Nyanza	Planetary Health, Climate Change and Non-Communicable Diseases: A Global Perspective of the Potentiated Effects on Human Health
10.	Dr. Benson Issarow	Predicted Blood Pressure Responses to Reduced Sodium Diet in Patients with Hypertension
11.	Mussa K. Nsanya	High Blood Pressure Among Adolescents in Sub-Saharan Africa: A Systematic Review
12.	Irene Mashasi	Access and awareness of COVID-pandemic information among type 2 diabetic patients in Tanzania
13.	Reuben Kato Mutagaywa	Patient-reported outcome measures following mechanical valve replacement surgery for rheumatic mitral stenosis at Jakaya Kikwete Cardiac Institute, Tanzania
14.	Happyness Kunzi	Community perceptions on non-communicable diseases related to indoor air pollution among adults living in urban informal settlements in Mwanza city, Tanzania
15.	Christina Malichewe	Awareness of Cervical Cancer Risk Factors Among Women Attending RCH Clinics in Dar Es Salaam City Council – Tanzania
16.	Neema Kailembo	Risk factors profile and symptomatology of patients with coronary artery disease in Tanzania: A retrospective study
17.	Oswald Wandwe	Magnitude and factors associated with herbal medicines use among patients with chronic kidney diseases at Muhimbili National Hospital, Dar es Salaam, Tanzania
18.	Omary Nassoro	Uptake and Associated Factors of Cervical Cancer Screening Services among Women Attending Reproductive and Child Health Clinic in Dodoma Municipal Council, Tanzania
19.	Mwanaheri Chubi	Childhood Deprivation and Health Related Quality of Life among Pediatric Cancer Patients at National' Hospital, Tanzania
20.	Samwel Jacob Rweyemamu	Early sonographic detection of carotid artery atherosclerosis in patients with a diagnosis of hypertension: A cross section study in a tertiary Hospital Tanzania
21.	Waziri Ndonde	Legislate Physical Activity for Better Health
22.	Juma Adinan Juma	Knowledge, Lifestyle Modification and Blood Pressure Control Among Hypertensives on Treatment in Tanzania.

23.	Rukia Mbwana	Prevalence and Factors Associated with Asymptomatic Bacteriuria among Children, Adolescents and Young Adults with Diabetes Mellitus Attending Clinics in Mwanza, Tanzania. A Cross-sectional Hospital-based Study.
24.	Veilla M Mteri	Assessing Health Literacy on Kidney Diseases among Young Adults within Higher Learning Institution in Dar Es Salaam Tanzania
25.	Kija Malale	Self-management interventions for adults with chronic diseases who have limited health literacy in high-, middle- and low-income countries: a scoping review
26.	Sanjura M. Biswaro	A retrospective survey of arthritis and other NCDs among inpatients at a consultant hospital in Northern Tanzania from 2017 to 2019.
27.	Leon E. Bahati	Proficiency for journalists towards community NCDs awareness
28.	Adam M. Ndamayape	Knowledge of Risk Factors For CKD among Adults Patients attending Haemodialysis at Muhimbili National Hospital, Dar es Salaam, Tanzania
29.	James Lubuulwa	Prevalence and Epidemiological Characteristics of Neonates with Neural Tube Defects at Bugando Medical Center: An 8-Year Hospital Based Survey
30.	James Chrispin	Burden of non-communicable diseases and need for primary prevention and control measures in Mwanza Region, Tanzania
31.	Majani M Edward	The Role of Health Professionals in Tackling the Burden of Non-Communicable Diseases
32.	Agness Kajungu	Exploring Patients, Family and Provider's Experiences and Practices in Palliative Care among Colorectal Cancer Patients in Dar es Salaam, Tanzania
33.	Musa Wambura	Factors Influencing Intention to Receive COVID-19 Vaccine among Patients attending Outpatient Services at Mwananyamala Hospital in Dar es Salaam, Tanzania: An Application of Extended Theory of Planned Behavior
34.	Maroa L. Nyamatara	Factors influencing nutritional knowledge of patients on hemodialysis at Muhimbili National hospital, Dar es Salaam, Tanzania
35.	Elizabeth F. Msoka	Understandings and Responses to Joint Pain: Findings from a Rapid Ethnographic Assessment in Northern Tanzania
36.	Samwel Jacob Rweyemamu	Burden of Hypertension, structural heart diseases and associated factors among Police Officers in Dare Salaam: a cross section study in police stations Tanzania
37.	Jenifa L. Mcharo	Prevalence of Patent Ductus Arteriosus and Treatment Outcome Among Neonates Admitted at Bugando Medical Centre

38.	Christina V. Malichewe	Nurses' Knowledge, Attitude, and Practices toward Palliative Care, Southern Highlands - Tanzania
39.	Andrew Katende	Peripartum cardiomyopathy in rural Tanzania: An observational prospective study
40.	Noemi Bazzanini	An Integrated Management System for the treatment of Noncommunicable Diseases: Evidences from a program implementation in Iringa DC
41.	Francis August	Barriers and facilitators of implementing performance accountability mechanisms for quality improvement in maternal health care in Mkuranga, Tanzania
42.	Erick Enock Magese	Impact of In-person Training on Health Care Provider Knowledge Of The Symptoms And Treatment Of Pediatric Cancer In Mwanza Region
43.	Reuben Kato Mutagaywa	Characterization of patients evaluated for percutaneous balloon mitral valvuloplasty at Jakaya Kikwete Cardiac Institute, Tanzania
44.	Meda John	Starting Cardiac Catheterization Services in Central Tanzania: Success, Challenges, and Future Plans: The Case of Benjamin Mkapa Hospital
45.	Gregory Goodluck	Understanding the impact of work and employment among injury patients post-hospitalization in Moshi, Tanzania: A qualitative assessment
46.	Godfrey Malangwa	
47.	Evangelista Kenan Malindisa	
48.	Halima M. mwaisungu	
49.	Augustino Mhanga	

Ministry of Health, Through Tanzania NCDs Prevention and Control Programme, in Collaboration with Muhimbili University of Health and Allied Sciences, and Catholic University of Health and Allied Sciences



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