



East Africa Diabetes Study Group 2023 CONGRESS

PROGRAMME & ABSTRACTS



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This year we have chosen Dar es Salaam (Arabic: دار السلام Dār as-Salām, literally "The residence of peace"), formerly Mzizima (Kiswahili for "healthy town"), for the **EADSG-2023 6th Congress & Scientific Sessions**.

Dar es Salaam is Tanzania's largest and richest city, the largest city in Eastern Africa by population, and a regionally important economic centre. This lively city is the major gateway to the world renowned "southern tourist circuit", the "coastal tourist circuit", and Zanzibar in Tanzania.

The **EADSG-2023 6th Congress & Scientific Sessions and Exhibition** will be held at the **Hotel White Sands and Conference Centre**, a state-of-the-art Conference centre that lies on Indian Ocean. The 5th Congress in Entebbe, Uganda, was followed by the devastating COVID-19 pandemic, and the scheduled 6th Congress of 2022 could not be held. We therefore sincerely hope to host an in-person conference of excellence this year, 2023. We are sure of two things: the conference will take place and the time is right time to discuss the lessons learned from COVID-19 pandemic and to look at what is needed to build a strong public health sector, in the management of diabetes and related diseases, in the post-COVID-19 era.

The Pre-Congress Workshop on Type 1 Diabetes and the Scientific Sessions present a paradigm shifts of clinical care - moving towards precision medicine (personalised medicine). Leading experts in the field of epidemiology and data management will guide the workshop in data management and prevention of complications in type 1 diabetes in sub-Saharan Africa. The Scientific Sessions of the congress focus on an important issue - cardiovascular disease in diabetes.

Beginning with this congress, we shall have the prestigious **EADSG Achievers Award** named after **Dr. Ilondo Mbelenge Mapoko** in recognition of his scientific achievements and will be presented two young scientists (below age of 40 years) who will be chosen by EADSG Achievers Award Committee for their excellence in research.

I wish to thank all those who have supported us to survive the COVID-19 pandemic and remain vibrant post-COVID19 be able to continue the same trajectory of facing the future with great optimism. Thank you all.

A handwritten signature in black ink that reads "Bahendeka". The signature is stylized and written in a cursive-like font.

Prof. Silver Bahendeka, Chair, EADSG
April 2023



Dear Delegates,
On behalf of the Organising Committee, I have the pleasure to welcome you to the 6th East African Diabetes Study Group Pre-Congress and the main Congress being held at White Sands Hotel in Dar es Salaam, Tanzania from 26th to 28th April 2023.

The last meeting, 5th East African Diabetes Study Group Congress was held in Entebbe, Uganda in February 2019 just a week before the global pandemic of COVID-19 resulted in a subsequent global lockdown of almost two years.

COVID19 pandemic starkly laid bare our existing health care system and highlighted the need to strengthen primary health care (PHC) including health information systems, health infrastructure, and health workforce. All the efforts are required to rebuild resilient health systems, with whole-of-government approaches and by engaging different stakeholders.

The East African Diabetes Study Group Congress has become a regular event that highlights the health care delivery in diabetes and other non-communicable diseases (NCDs) in the East Africa Region. It has taken us four years after the 5th Congress to organise this event due to the COVID19 and post covid19 challenges.

The 6th EADSG congress promises to be a comprehensive, multidisciplinary forum with national, regional and global faculty of leaders in diabetes and other Non-Communicable Diseases (NCDs). It will bring together more than 300 delegates from all over sub-Saharan Africa to discuss diabetes & its complications and priorities and actions for change in diabetes and other NCDs within the East Africa Region.

The theme of the congress this year is ***Diabetes and Cardiovascular Disease***.

The Organising Committee is convinced that the program is rich and enough to occupy everyone with stakes in diabetes and other related NCDs during the three days of the Conference.

The Congress is preceded by a three-day symposium on Data Management in Type 1 diabetes clinics in sub-Saharan Africa wherein more than thirty countries from the sub-Saharan Africa who are supported by either Changing Diabetes in Children (CDiC) or Life For a Child (LFAC) program for access to insulin and other commodities for children with type 1 diabetes.

The 6th EADSG Congress is being held in Dar es Salaam, Tanzania. Dar es Salaam was founded in 1862 and is the major industrial and commercial centre of the country.

Sit back and enjoy high quality science together with “grassroot” practical solutions in managing diabetes & its complications in setting of resource limitations.

KARIBU TANZANIA!

A handwritten signature in black ink, appearing to read 'Kaushik Ramaiya', with a long horizontal stroke extending to the right.

Prof Kaushik Ramaiya
Secretary
EADSG

PRE-&-CONGRESS-AT-A-GLANCE

| | Monday 24 April | Tuesday 25 April | Wednesday 26 April | Thursday 27 April | Friday 28 April |
|-------|--|--|---|--|---|
| 08:30 | Pre-congress Registration Introduction to Workshop | Pre-Congress Registration & Summary of Day 1 | Break Away Rooms T1D / Dr. Eric Njumwa Mngola Award Lecture / CVD | Award Lecture: Prof Donald McLarty/ Diabetes & Liver | Award Lecture: Sir Albert Cook Memorial Lecture/ T2D Phenotypes |
| 10:00 | Break/Exhibition | Break/Exhibition | Break/Exhibition | Break/Exhibition | Break/Exhibition |
| 10:30 | Structured Questionnaire | Data Collection in Research | Break Away Rooms T1D/ Symposia on Diagnosis of Diabetes | Open Communications O1 - O3 | NCDs Gestational Diabetes |
| 12:00 | | | | | |
| 12:30 | Structured Questionnaire | Type 1 Diabetes in SSA - Chair IDF | Break Away Rooms T1D / Symposia diagnosis of diabetes / Facts | SGLT2i & Malaria & DM | Open Communications O4 -O9 |
| 13:30 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 13:45 | Experience from Mali Epidemiology | Afro- Asian Collaboration | Break Away Rooms T1D / Obesity T2D; Insulin resistance | Symposia - new perspectives in DM | Open Communications 10 &11 Diabetes Care Pack |
| 15:00 | | | | | |
| 15:45 | Publishing a manuscript | Afro-Asian Collaboration | Break Away Rooms T1D / Infections in Diabetes | Symposia - new perspectives in DM | Open Communications Diabetes Care Pack |
| 16:30 | Break/Exhibition | Break/Exhibition | Break/Exhibition | Break/Exhibition | Break/Exhibition |
| 17:00 | Hands on with Digital tool development | Afro-Asian Collaboration | Infections in diabetes | Meet the Experts - Diabetes Foot | Meet the Experts - the insulin pumps and CGM |
| 17:30 | | | | | |
| 18:00 | | Opening Ceremony | Research Meetings | EADSG / ADC Meeting | Close of Congress |
| 19:30 | Dinner | Dinner | Dinner | Dinner | Dinner |
| 20:00 | White Sands | White Sands | Ramada Hotel | White Sands | Jangwani Hotel |

DAY 1 PRE-CONGRESS: 24 APRIL 2023

| | |
|----------------------|---|
| Morning | GILMAN'S CONFERENCE RM (FLOOR 1) |
| 08:00 - 08:30 | Registration - at Registration Desk |
| 08:30 - 11:00 | Structured Presentations on Data Management from Countries – Country Representative |
| 11:00 - 11:15 | Tea/ Coffee Break |
| 11:15 - 13:00 | Structured Presentations on Data Management from Countries – Country Representative Establishing a database nationwide - the process: Jasper Onono & Silver Bahendeka (Uganda) |
| 13:00 - 14:00 | Lunch |
| Afternoon | Afternoon |
| 14:00 - 16:00 | Basic Programs for T1D – Experience from Mali – Stephane Besancon Basic Epidemiology & Experience from past studies on T1D – Jaakko Tuomilehto |
| 16:00 - 16:30 | Tea/ Coffee Break |
| 16:30 - 17:30 | What a peer-reviewed journal expects- Manuscripts writing and submission. Dr. Koch Marta |
| 19:00 - 21:00 | Dinner |
| Comments | RAPPORTEUR: Dr. Punit Srivastava |

DAY 2 PRE-CONGRESS: 25 APRIL 2023

| | |
|----------------------|---|
| Morning | GILMAN'S CONFERENCE RM (FLOOR 1) |
| 08:00 - 08:30 | Registration - at Registration Desk |
| 08:30 - 11:00 | Collecting data on T1D for epidemiological surveillance in SSA & Globally and for improvement of patient care – David Henri Beran |
| 11:00 - 11:15 | Tea/ Coffee Break |
| 11:15 - 13:00 | IDF Africa Region – without CDiC & LFAC programs - Jacko Abodo Sub studies on T1D - Bahendeka |
| 13:00 - 14:00 | Lunch |
| Afternoon | Afternoon |
| 14:00 - 16:00 | Join the Afro-Asian Collaboration & Opening Ceremony OR Start on writing up project |
| 16:00 - 16:30 | Tea/ Coffee Break |
| 16:30 - 17:30 | Net working |
| 19:00 - 21:00 | Dinner |
| Comments | Facilitators: Discussion on way forward with regards to establishing an epidemiological surveillance for T1D in SSA and the sub studies RAPPORTEUR: Dr. Punit Srivastava |

DAY 3 PRE-CONGRESS: 26 APRIL 2023

| | |
|----------------------|---|
| Morning | A: Kobe Hall; B: Tausi Hall; C: Kobe 1 Hall |
| 08:00 - 08:30 | Registration - at Registration Desk |
| 08:30 - 11:00 | Individual countries write up a proposal of future management plan - Rooms A; B; C Assisted by facilitators |
| 11:00 - 11:15 | Tea/ Coffee Break |
| 11:15 - 13:00 | Individual countries write up a proposal of future management plan - Rooms A; B; C Assisted by facilitators |
| 13:00 - 14:00 | Lunch |
| Afternoon | Afternoon |
| 14:00 - 16:00 | Meeting of Facilitators:- Chair: K Ramaiya S Bahendeka Rapporteur: Dr. Punit Srivastava Prof Jaakko Tuomilehto; Prof David Henri Beran; Dr. Koch Marta; Dr. Hilda Nabiswa; Mr. Jasper Onono; Prof Mutabingwa Theonest; Prof Andrew Babu Swai; Mr. Stephane Besancon; Prof Jacko Abodo; Ms Cecile Eigenmann; Ms Emma Klatman |
| 16:00 - 16:30 | Tea/ Coffee Break |
| 16:30 - 17:30 | Way Forward and Closure Kaushik Ramaiya Silver Bahendeka |
| 19:00 - 21:00 | Dinner |
| Comments | Facilitators: <u>Continue & Finalize Discussion</u> on way forward with regards to establishing an epidemiological surveillance for T1D in SSA RAPPORTEUR: : Dr. Punit Srivastava |

SCIENTIFIC SESSIONS: 25 APRIL 2023

| Time | GILMAN'S CONFERENCE RM (FLOOR 1): Afro - Asian Summit | |
|--|--|--|
| 07:00 - 08:30 | Arrivals | |
| 08:30 - 09:15 | Arrivals | |
| 09:15 - 11:00 | Arrivals | |
| 11:00 - 11:30 | TEA/COFFEE BREAK | |
| 11:30 - 12:15 | Arrivals | |
| 12:15 - 13:00 | Arrivals | |
| 13:00 - 14:00 | LUNCH BREAK | |
| 14:00 - 17:00 | <p>I. Vasculo-Metabolics: Chair: SK Bahendeka/ S Kalra/R Mwebaze / Hamed Ashraf</p> <ul style="list-style-type: none"> *Resistant Hypertension -Saurav Khatiwada (Nepal) * LDL Reduction beyond Statins - Rakesh Satay (India) *NAFLD -Update- Nitin Kapoor (India) *Somno Metabolic Syndrome - Saptarshi Battacharya (India) <p>II. Nutriti-Metabolics: Chair:: D Kibirige/Saurav Khatinwada</p> <ul style="list-style-type: none"> *Anaemia in diabetes - Hardev Nehra (India) * Hidden Hunger in healthcare - Silver Bahendeka (EA) <p>III. Gluco-Metabolics: Chair: K Ramaiya/W Sseguya</p> <ul style="list-style-type: none"> *Difficult to treat Diabetes - Hamid Ashram (India) * Cousine-Centred Diabetes Care -K Ramaiya (EA) | |
| 17:00 - 17:15 | TEA/COFFEE BREAK | |
| 18:00 - 18:30 | Arrival of Chief Guest | |
| 19:30 - 22:00 OPENING CEREMONY FOLLOWED BY DINNER AT WHITE SADS | Chair EADSG Host / Secretary EADSG Scientific Committee Afro-Asian Collaboration Young Achievers Award IDF Africa Region Key Note Lecture Guest Honour | Prof SK Bahendeka Prof K Ramaiya Prof Jean Claude Mbanya Prof Sanjay Kalra Prof Sarita Bajaj Prof Jacko Abodo Prof Andrew Swai Hon Minister of Health |

SCIENTIFIC SESSIONS: 26 APRIL 2023

| Time | GILMAN'S CONFERENCE RM (FLOOR 1) |
|---------------|---|
| 07:00 - 08:30 | REGISTRATION |
| 08:30 - 09:15 | Chairs: Prof SK Bahendeka / Prof K Ramaiya Dr Erick Njumwa Mngola Memorial Lecture Speaker: Dr. Warren Rhen Wei Lee (Singapore) Topic: Relevance of early diagnosis and management of Type 1 Diabetes in low and middle income countries |
| 09:15 - 11:00 | Chairs: Prof A Motala / Prof N D Levitt Symposia: Diabetes & Cardiovascular Disease - Treating Across the Continuum: From Prevention of Type 2 Diabetes to Atherosclerotic CVD and heart failure Speakers: Prof Jean Claude Mbanya(Cameroon) - Prevention Prof CF Otieno (Kenya) - SGLT2i & GLP1A Dr. James Kayiima (Uganda) - Heart failure |
| 11:00 - 11:30 | TEA/COFFEE BREAK |
| 11:30 - 12:15 | Chairs: Prof S Bajaj / Prof M Hawkins Symposia: Oral Antidiabetic Fact Checking Speakers: Prof JC Mbanya (Cameroon) Prof Khadija Hafidh (UAE) - Role of HbA1c and other Glycated Proteins Vs Fasting Plasma Glucose for population surveillance |
| 12:15 - 13:45 | Chairs: JC Mbanya / Jacko Abodo Symposia: Pre-Diabetes & Diabetes - The role of OGTT Speakers: Prof Anne Elizabeth Sumner (USA) - OGTT Prof Sanjay Kalra (India) - Role of HbA1c and other Glycated Proteins Vs Fasting Plasma Glucose for population surveillance |
| 13:45 - 14:45 | LUNCH BREAK |
| 14:45 - 16:00 | Chairs: Prof S Kalra / Prof M Hawkins Plenary Lecture: Obesity and Type 2 Diabetes Speaker: Prof Nitin Kapoor (India) Plenary Lecture: Insulin Clearance / Insulin Resistance Prof Seyoum Berhane (USA) |
| 16:00 - 17:30 | Chairs: Prof T Nihal / Dr. D Kibirige Symposia: COVID-19 & Infections / Tuberculosis Speakers: Dr. Guntupalli Aravinda (UK) - COVID-19 Prof Levitt Dinky (RSA) - Tuberculosis and T2D |
| 17:30 - 19:30 | CLOSE DAYS SESSIONS |
| 19:30 - 22:00 | Type 2 Diabetes & Hypertension - Dinner Symposium - Ramada Hotel. |

SCIENTIFIC SESSIONS: 27 APRIL 2023

| Time | GILMAN'S CONFERENCE RM (FLOOR 1) |
|---------------|--|
| 07:00 - 08:30 | REGISTRATION |
| 08:30 - 09:15 | Chairs: Prof SK Bahendeka / Prof K Ramaiya Prof Donald McLarty Memorial Lecture Speaker: Prof Nihal Thomas (India) Topic: Diabetes Phenotypes in low and middle income countries |
| 09:15 - 11:00 | Chairs: Prof JC Mbanya / Prof Andrew Swai Symposia: Diabetes & Liver - Global Perspective: Prof Sarita Bajaj (India) Diabetes & Liver: sub-Saharan Africa: Dr. R Mwebaze (Uganda) |
| 11:00 - 11:30 | TEA/COFFEE BREAK |
| 11:30 - 12:15 | Chairs: Dr M Gaman / Prof Khadija Hafidh Oral Communications Simian Rajan & Girish Somvanshi : Exploring the role of artificial intelligence in diabetic retinopathy detection and management in SSA. Rahim Damji #01 ; Mutebi Edrisa #02 |
| 12:15 - 13:45 | Chairs: G Atieno / W Seguya State of Art Lecture: SGLT2i and Diabetic Kidney Disease Speakers: Dr. Onesmo Adonikam Kisanga (Tanzania) State of Art Lecture: Cardiometabolic risk in young adults following foetal malaria exposure: Speaker: Prof Dirk Lund Christensen (Denmark) |
| 13:45 - 14:45 | LUNCH BREAK |
| 14:45 - 16:00 | Chairs: Prof T Mutabingwa / Prof N D Levitt Symposium: Diabetes in Africa: New perspectives - Emerging Young Researchers Speakers: (1) Priscilla Balungi (Uganda)- Developing robust methods for accurate diabetes diagnosis in Africa (2) Anxious Niwaha (Uganda)- Monitoring glycaemic control in T2D in a resource -limited setting, (3) Wisdom Nakanga (Malawi) - Accuracy and utility of OGTT in sub-Saharan Africa, (4) Jean-Claude Latte (Cameroon) - the phenotypes and aetiology of type 1 diabetes in sub-Saharan Africa, (5) Davis Kibirige (Uganda) - Diabetes Phenogypes in Uganda. |
| 16:00 - 17:30 | Chairs: Prof SK Bahendeka / Prof K Ramaiya Meet the Expert: Diabetes Foot Infection Speakers: Prof Nihal Thomas (India), Prof Felix Jebasing (India) & Dr. Z Abbas (Tanzania) |
| 17:30 - 19:30 | CLOSE DAYS SESSIONS |
| 19:30 - 22:00 | MEETING OF EADSG / ADC - Prof S K Bahendeka / Prof K Ramaiya |

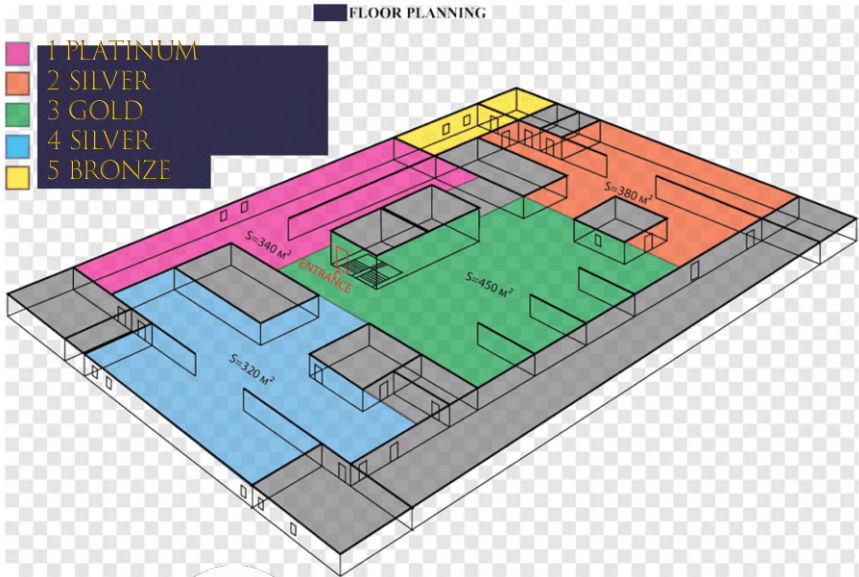
SCIENTIFIC SESSIONS: 28 APRIL 2023

| Time | GILMAN'S CONFERENCE RM (FLOOR 1) |
|---------------|---|
| 07:00 - 08:30 | REGISTRATION |
| 08:30 - 09:15 | Chairs: Prof SK Bahendeka / Prof K Ramaiya Sir Albert Cook Memorial Lecture Speaker: Prof Andre Pascal Kengne (RSA) Topic: Relevance of Diabetes Riskscore for early diagnosis in LMIC |
| 09:15 - 11:00 | Chairs: Prof CF Otieno/ Dr Z Abbas Symposia: H3Africa: Prof A Motala (RSA) Lean Type 2 Diabetes: Prof M Hawkins (USA) Migration on Cardiometabolic Diseases: Prof C Agyemang (Netherlands) |
| 11:00 - 11:30 | TEA/COFFEE BREAK |
| 11:30 - 12:15 | Chairs: Prof S Berhane / Prof A Swai Africa CDC Strategy on NCDs, Injuries and Mental Health: Dr Edelard Kakunze (Tanzania); Hyperglycaemia in Pregnancy/Gestational Diabetes: Prof N D Levitt (RSA) |
| 12:15 - 13:45 | Chairs: Prof K Ramaiya / Prof S Bahendeka Oral Communications: P. Lakwijk (The Thyroid); Frank Mukunga 03; William Lumu 04; William Lumu 05; Fredrick Mashili 06; Uwesu Muki 07; Mbiyzenuyu Ferdinant Sonyuy 08; Bernard Omech 09; Cissy Nalunkuma 10; Lauryn Nsenga 11. |
| 13:45 - 14:45 | LUNCH BREAK |
| 14:45 - 16:00 | Chairs: Prof S Berhane/ G Atieno Jalang'o The "Diabetes CarePak" Project: Enabling High Quality Diabetes Self-Care through Bundled Supplies Speakers: Helen McGuire (USA) - Panel Moderator Gerald Robi (Tanzania) - Overview of CarePak Kaushik Ramaiya (Tanzania) - Responses -Q&A Ephantus Maree (Kenya) - Pathway sustainability Angela Making Mafuru (Tanzania) |
| 16:00 - 17:30 | Chairs: Dr. Omech / Prof Andrew Swai Meet the Expert in Management of Type 1 Diabetes: Speakers: Dr M Gaman (Kenya) - Insulin pump Dr Piloya Were (Uganda) - CGM and Time in Range |
| 17:30 - 19:30 | CLOSE OF CONGRESS |
| 19:30 - 22:00 | Departures; Dinner at Jangwani Hotel |

EXHIBITION IN RUAHA HALL 26 - 28

APRIL 2023

We wish to thank all our sponsors and exhibitors who have gone all the way to do all that it takes and make the 6th EADSG Congress a great success. Thank you all.



WORLD **DIABETES** FOUNDATION



ORAL COMMUNICATIONS

Oral Communication #01

Case Report

Title: Clinical Overlap of Celiac Disease in an Adolescent with T1DM

Rahim Karim Damji¹

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Abstract

Background: Type 1 diabetes mellitus (T1DM) and celiac disease (CD) are one of the most recognized related autoimmune disorders as they share a common genetic background. The prevalence of CD ranges from 1%–16.4% among children and adolescents with T1DM. The risk of CD is inversely and independently associated with the greatest risk in those with diabetes diagnosed before 5 years of age or within 5 years of diagnosis. CD in most cases is asymptomatic; therefore, it goes underdiagnosed. As a result, it has been linked to late consequences such as decreased growth, delayed puberty, and anaemia.

Case report: C.T. is 15.5 years old male who is known to be T1DM since the age of 14 years. He was referred due to failure to thrive, delayed puberty and long-standing anaemia. He reported poor glycaemic control with a recent HbA1c of 13.9% despite good compliance with insulin and good dietary intake. He tested negative for HIV with normal thyroid function. His anthropometrics for both weight and height were below –2 SD. Upon assessment, he tested positive for the anti-tissue transglutaminase IgA test.

Conclusion: Immunogenetics and the environment are closely interrelated in the pathogenesis of T1DM and CD. Identification of the disease in asymptomatic subjects highlights the need for annual celiac screening in type 1 diabetes.

Oral Communication #02

Title: Performance of N-Acetyl-Glucosaminidase in the diagnosis of renal disease among patients with diabetes mellitus.

Edrisa Mutebi^{1,a}, Silver Bahendeka², Frederick Nakwagala³, Emmy Okello⁴ Peace Bagasha⁵Anthony Batte⁶, Robert Kalyesubula⁷, Joan Kalyango⁸.

1. Makerere University, Department of Medicine Kampala, Uganda; 2. Nsambya Hospital, Department of Medicine Kampala, Uganda; 3. Mulago, National Referral Hospital, Kampala, Uganda.; 4. Uganda Heart Institute, Kampala; 5. Mulago, National Referral Hospital, Kampala, Uganda; 6. Child Health and Development Centre, Makerere University College of Health Sciences, Kampala, Uganda; 7. Makerere University, Department of Physiology and Department of Medicine, Kampala, Uganda; 8.

Makerere University, Department of Clinical Epidemiology and Biostatistics, Kampala, Uganda.

Abstract

Background

Renal failure is a common and increasing complication of Diabetes mellitus (DM). Diabetic Kidney Disease accounts for 40% of cases of end stage kidney disease in developed countries. In Africa the numbers are also noted to be on the increase. Almost 30-40% of patients with DM were found to have DKD in Uganda.

Microalbuminuria (MA) has been used as a marker of diabetic nephropathy (DN) however N-acetyl Glucosaminidase (NAG) a biomarker of tubular injury is a potential marker of early DN, has been identified as a potential tool to detect early DN. The aim of the study was to assess the performance of NAG with MA as the gold standard in the diagnosis of renal disease among patients with diabetes mellitus.

Methods

In this cross-sectional study we enrolled 322 participants from the Mulago National Referral Hospital, Diabetes Mellitus Clinic, Kampala Uganda. Patients with positive leukocyte esterase and/or nitrites on urine dipstick were excluded. Data was collected using an interviewer administered questionnaire, blood and 24-hour urine sample collected and evaluated for creatinine, NAG and MA. Participants with NAG value above $\geq 3\text{U/g}$ and / or with MA $\geq 30\text{mg/mmol}$ were considered positive for nephropathy. Sensitivity, specificity and accuracy of NAG compared to MA were determined using the MA as the gold standard.

Results

Mean \pm SD age was 51.1 ± 12.3 years. Sixty seven percent were female. Nine percent were HIV positive while 53% were using oral herbal drugs. Majority of our patients had the peripheral vascular disease (mean ankle brachial index (ABI) 1.2), poor BP control (mean SBP 177 mmHg), and mean HbA1c \pm SD was 8.08 ± 2.5 %. Of all the participants 50% were positive for NAG, while 40% were positive for MA giving a sensitivity of 93% for NAG and specificity of 80%. The Overall accuracy of NAG was 85%. It was also noted that 25% of the participants had normal MA but positive for NAG (false positive). It was also noted on the other hand that 6% of patients who were MA positive were NAG negative. The positive predictive value is 75% while the negative predictive value was 94%.

Conclusion and recommendation.

While a much longer period is required for the assessment of outcome of renal disease, the results point to NAG being useful in detection of renal disease and should be considered as an early detection tool. More work is needed to evaluate the performance of NAG in a large longitudinal cohort.

Oral Communication #03

Title: Prevalence of Diabetes Mellitus and associated risk factors among patients with tuberculosis in three major hospitals, Kilimanjaro region. Charles E. Mantage, Raymond G. Kitunga, Abdallah N. Hemed, Frank J. Makunga, Alexander W. Mbuya. Kilimanjaro Christian Medical University College, Moshi, Tanzania.

ABSTRACT

Background: Tuberculosis (TB) is a chronic infectious bacterial disease mainly caused by *Mycobacterium tuberculosis* (M.tb) and primarily affects the lungs. Every year around 10 million people fall ill with tuberculosis and 1.5 million die of TB making it the world's top infectious disease killer. Despite of TB being a global disease but most of the people who fall ill with TB live in low and middle-income countries. The World Health Organization (WHO) has enlisted 30 high burden countries with over 80% of the TB patients. One of the factors attributing to TB is the presence of comorbidities like Diabetes Mellitus (DM).

Objectives: To determine the prevalence of Diabetes Mellitus and associated risk factors among patients with tuberculosis in three major hospitals in Kilimanjaro region.

Methodology: A cross-sectional secondary analysis study involving secondary data collection and analysis was conducted in Kilimanjaro region. The study involved three major hospitals; Kibong'oto Infectious Diseases Hospital, Mawenzi Regional Referral Hospital and Kilimanjaro Christian Medical Centre among TB patients with the age of 15 years and above. Simple random sampling was used to select the patients with TB. The data was cleaned and analysed using SPSS version 20.0. Numerical variables were summarized using mean and standard deviation and categorical variables by frequency and percentages. A p-value of ≤ 0.05 was considered statistically significant.

Results: A total of 235 TB patients were analysed, the overall mean age of participants was 44.4 (± 13.56) and 176 (74.9%) of the participants were males. The prevalence of DM among TB patients in this study was 9.4%. Factors associated with DM among TB patients were age (OR: 3.53, 95% CI 1.30 – 9.57) and HIV status (OR: 0.34, 95% CI 0.12 – 0.995)

Conclusion: The prevalence of DM among TB cases observed in this study is high compared to several recent researches, current efforts to integrate and improve TB-DM services within routine care should be strengthened. Also there is a need for early screening of DM in elderly and HIV positive TB patients for early and better management.

Keywords: Prevalence, Diabetes mellitus, Risk factors, Tuberculosis, Kilimanjaro.

Oral Communication #04

Title: Effectiveness of a nurse-led management intervention on systolic blood pressure among type 2 diabetes patients in Uganda: a cluster randomized trial

William Lumu^{1*}, Silver Bahendeka², Davis Kibirige³, Ronald Wesonga⁴, Ronald Kasoma Mutebi⁵ ^{1*}Department of Internal Medicine Mengo Hospital Kampala, Uganda ² Mother Kevin Post Graduate Medical School-Uganda Martyrs, University, Uganda, ³Uganda Martyrs Hospital Lubaga Kampala Uganda, ⁴Makerere University, School of Statistics and Planning, ⁵ Clinical Epidemiology Unit, Makerere University College of Health Sciences, Uganda,

Background

Hypertension (HT) is an orchestrator of atherosclerotic cardiovascular disease (ASCVD) in persons living with type 2 Diabetes (T2D). Control of systolic blood pressure (SBP) and HT as a whole is suboptimal in diabetes partly due to scarcity of doctors. While nurse-led interventions are pragmatic and cost-effective in the control of HT in primary health care, their effectiveness on SBP control among patients with T2D in Uganda is scantily known.

Aim

We evaluated the effectiveness of a nurse-led management intervention on SBP among T2D patients with a high ASCVD risk in Uganda.

Methods

A two-armed cluster randomized controlled trial was conducted to compare the nurse-led management intervention with usual doctor-led care. The intervention involved training of nurses to provide structured health education, protocol based HT/CVD management, 24-hour phone calls and 2 monthly text messages for 6 months. The primary outcome was mean change in SBP between baseline and after 6 months. The secondary outcome was change in proportion of patients reaching treatment targets for SBP, total cholesterol (TC), fasting blood sugar (FBS), glycated hemoglobin (HbA1C), low density lipoprotein cholesterol (LDL), triglycerides (TG) and body mass index (BMI). The study was analyzed with intention to treat principle. Generalized estimating equations were used to assess for intra-cluster effect modifiers. Statistical significance was set at 0.05 for all analyses.

Results

Eight clinics (n=388 patients) were included (intervention 4 clinics; n=192, control 4 clinics; n=196). A nurse-led intervention reduced SBP by 11.21 ± 16.02 mmHg with a mean difference between the groups of -13.75 mmHg (95% CI -16.48 to 11.02, $P < 0.001$). Diastolic blood pressure was reduced by 6.77 ± 9.48 mmHg with a mean difference between groups of -7.17 mmHg (95% CI -8.87 to -5.48, $p < 0.001$). An increase in SBP of 2.53 ± 10.95 mmHg was noted in the control group. The proportions of patients reaching target for SBP (95% CI -0.234 to 0.077, $p < 0.001$), diastolic blood pressure (95% CI -0.359 to 0.137, $p < 0.001$), LDL (95% -0.075 to 0.007, $p < 0.001$) and TGs (95% -0.0155 to 0.032, $p = 0.002$) increased while those of FBS ($P = 0.66$), HbA1c ($P = 0.710$) and BMI ($P = 0.414$) did not change.

Conclusion

A nurse-led management intervention reduces SBP and ASCVD risk among patients with T2D. Such an intervention may be pragmatic in screening and management of HT/ASCVD in Uganda.

Trial Registration: Pan African Clinical Trial Registry, PACTR202001916873358, registered 6th October 2019.

Oral Communication #05

TITLE: Prevalence and Correlation of Abnormal Atherogenic Cardiovascular Indices and Ankle Brachial Index with Predicted 10-year Atherosclerotic Cardiovascular Disease Risk among patients with Type 2 Diabetes in Central Uganda.

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ABSTRACT

Introduction

Cardiovascular disease is the major cause of morbidity and mortality among patients with type 2 diabetes (T2D). Abnormal atherogenic cardiovascular indices and ankle brachial index (ABI) are markers of atherosclerosis.

Aim

The aim of this study was to determine the prevalence of abnormal atherosclerotic cardiovascular indices, ABI and their correlation with the predicted 10-year atherosclerotic cardiovascular disease risk (ASCVD) among T2D patients in Central Uganda.

Subjects and methods

This was a cross-sectional study conducted in 8 diabetes clinics in Central Uganda from November 2020 to February 2021. Five hundred patients aged 40-79 were consecutively selected. Socio-demographic data was collected with a pre-tested questionnaire. Physical and laboratory measurements were performed. Atherogenic cardiovascular indices such as Atherogenic Index of Plasma (AIP), Atherogenic Coefficient and Casteri Risk Index I & II were determined. Ankle Brachial Index (ABI) was measured. We used the revised Pooled Cohorts Risk Equations to quantify the 10-year ASCVD risk. The proportions and percentages of atherogenic cardiovascular indices, ABI and 10 year ASCVD risk were determined. Pearson chi-square correlation analyses were performed to determine correlation and statistical significance was $p < 0.05$.

Results

The magnitude of AIP was 20.2% and 36.25 in the intermediate and high-risk categories respectively. Casteri Risk Index I was high in 68.4% while 32.6% had elevated Casteri Risk Index II. Atherogenic Coefficient was high in 68.4% of the participants. Low ABI of < 0.9 was found among 25.4% while 0.6% had an $ABI > 1.3$. Atherogenic cardiovascular indices significantly correlated with 10 year ASCVD risk with Casteri Risk Index I ($r = 0.185$, $p < 0.001$), Casteri Risk Index II ($r = 0.127$, $p < 0.004$), Atherogenic Coefficient ($r = 0.186$, $p < 0.001$). ABI ($r = -0.225$, $p < 0.001$) negatively correlated with the ASCVD risk. AIP was positively but not significantly correlated with ASCVD risk ($r = 0.053$, $p = 0.241$).

Conclusion

Atherosclerotic cardiovascular indices and ABI correlated with ASCVD risk. These can be used to screen and manage ASCVD in our setting.

Oral Communication #06

Title: Bioelectric Impedance Phase Angle: A Promising Non-Invasive Biomarker of Healing and Progression of Diabetic Foot Ulcer

Background: Diabetic foot ulcers (DFUs) are notoriously difficult to heal, and monitoring and tracking their healing has always been a challenge. Therefore, the identification of non-invasive biomarkers for tracking the healing and progression of DFUs is of utmost importance.

Objective: This study aimed to investigate the potential of bioelectric impedance phase angle as a non-invasive biomarker for tracking the healing and progression of DFUs.

Methods: A longitudinal study was conducted in Dar es Salaam, involving 45 patients with DFUs, who were followed for six months or until complete healing of the ulcer occurred. Segmental bioelectric impedance analysis (BIA) was performed by placing electrodes on the right and on the left limbs (arms and feet).

Results: At baseline, bioelectric impedance phase angle was significantly lower when electrodes were placed on the side with DFU as compared to when placed on the non-affected side (mean 3.28 vs 5.82). The phase angle difference (non-affected minus affected side) correlated with wound surface area and significantly narrowed with the healing of DFU. Several other factors, such as ulcer stage, infection/inflammation, and glucose control, were significantly associated with the phase angle difference.

Conclusion: Bioelectric impedance phase angle has shown great promise as a non-invasive biomarker for tracking the healing and progression of DFUs. This finding could have significant implications for the management and treatment of DFUs, particularly in low and middle-income countries. Therefore, further research is needed to explore the potential of this biomarker in larger populations and in different clinical settings.

Oral Communication #07

Burden, pattern, associated factors and impact on quality of life of dermatological disorders among the elderly in Ilala Municipality, Dar es Salaam.

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Background: The global population of people aged 60 years or older (elderly) is increasing. Skin disorders are reported to be common in this population. In view of limited data available, this study determined the burden, pattern and impact on quality of life (QoL) of the disorders among the elderly in Tanzania.

Methods: This was a community-based cross-sectional study conducted from August to November 2021 in Ilala Municipality, Dar es Salaam. Participants were obtained through simple random sampling in multiple stages. Diagnoses were made through clinical assessment initially performed by the Principal Investigator and a dedicated Dermatovenereology Officer, and then confirmed by a Dermatologist using digital photographs.

Title: Quality of Life was assessed using a validated Dermatology Quality of Life Index (DLQI) with scores ranging from 1 to 30. The wealth index was graded from class 1

(poor) to class 5 (rich). Data were analyzed through Chi-squared test, Poisson Logistic regression, and analysis of variance.

Results: A total of 694 elderly were enrolled. The overall prevalence of dermatological disorders was 593 (85.45%). The commonest disorders were skin infections and infestations (36.1%); eczemas (34.7%); papulosquamous eruptions (6.5%), and keratinization disorders (2.6%). Autoimmune disorders comprised 1.4%, while vascular disorders and tumors were less prominent, comprising of 1.2% of all cases. A small proportion (1.7%) of the elderly had ≥ 2 skin disorders. In multivariate analysis the wealth index was found to be associated with the presence of the disorders. There was 61% impairment in QoL due to the dermatological disorders.

Conclusion: Dermatological disorders among the elderly were common and were associated with the wealth index. They had a significant impact on quality of life. Appropriate control measures to address dermatological disorders among the elderly are needed.

Oral Communication #08

Title: Process of Developing Contextually Designed Front of Package Warning Labels for Cameroon for Testing

Background: Non-communicable diseases (NCDs) are responsible for a significant portion of global deaths, particularly in low and middle-income countries such as Cameroon. Exposure to risk factors, including unhealthy diets, is a major contributor to NCDs. In Cameroon, 35% of annual deaths are due to NCDs. A potential solution to address this issue is the use of front of Package Warning Labels (FOPL) to influence consumer purchase decisions. The main objective of this study was to develop and test Front of Package Warning Labels contextualized to Cameroon, as a tool for salt reduction and NCD prevention and control in Cameroon.

Methods: The study involved two sets of focus group discussions (FGDs) held in the Bamenda and Biyem-Assi Health Districts with both rural and urban participants. The first set evaluated design elements drafted by a contracted designer, while the second set evaluated sample Warning Label Designs with combined elements. A total of 14 FGDs were held with 8-12 participants. An expert panel was also convened to evaluate the final products that came from the FGD participants.

Results: Four Front of Package Warning label designs were adopted for Cameroon, and designed for testing in the field through a randomized controlled trial. These designs were developed based on insights from the focus group discussions and were deemed recognizable and potentially influential in purchase decisions for the population.

Conclusions: The study found that consumers in Cameroon are more concerned with expiry dates than nutrient content on packaged food products. The need for a Front of Package label, and preferably a warning label, was emphasized and accepted by both the experts and participants of the focus group discussions. This study provides evidence for the use of FOPLs as a tool to address cardiovascular health and NCDs in Cameroon.

Learning objectives:

1. Exploring the use of front of package warning labels (FOPLs) as a tool for influencing consumer behavior and promoting healthier food choices to mitigate cardiovascular diseases and other in Cameroon.
2. Examining the methodology and results of the focus group discussions and expert panel that were conducted to develop and evaluate FOPL designs and the key design elements found for Cameroon including the importance of consumer perspectives in design.
3. Discussing the potential for FOPLs to contribute to NCD prevention and control efforts in Cameroon and other low and middle-income countries.

Keywords: FGDs, NCDs, RADA, Warning label, FOPL.

Oral Communication #09

Title: The Burden of Non-Communicable Diseases among Hospitalized HIV Positive Patients at Lira Regional, Referral Hospital, Northern Uganda: Retrospective Chart Review 2016-2020

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Background: Non-communicable diseases(NCDs) are increasing rapidly in sub-Saharan Africa including Uganda. Knowledge of the effect of long-term antiretroviral therapy (ART) and emergence of NCDs on hospital utilization remain scant. This study aimed to compare the burden of major NCDs and predictors of mortality among hospitalized HIV positive and HIV-negative patients in the medical wards at Lira regional referral hospital in Northern Uganda.

Method: We conducted a retrospective cross-sectional chart review of hospitalized patients from the male and female medical wards between 2016 and 2020. The prevalence of NCDs was estimated and status at discharge determined. Binary and multi-variable regression analyses were performed to determine predictors of mortality with statistical significance set at 0.05 p-value.

Results: A total of 445 patient files were examined, with 49 percent (n=218) of them revealing HIV status. Males made up 53% of the total number of patients studied (n=226). In HIV positive patients, the prevalence of at least one NCD, two NCDs, and three or more NCDs multi-morbidity was 73 percent, 16 percent, and 2 percent, respectively. In HIV negative controls, the prevalence of at least one NCD, two NCDs, and three or more NCDs was 62 percent, 28 percent, and 6 percent, respectively,

compared to HIV positive controls. Cardiovascular diseases, diabetes, cancers, chronic lung disease, liver diseases, and mental disorders were found in 19.52 percent (CI: 14.67-25.49) of HIV positive patients versus 36.99 percent (CI: 30.06-44.50), 4.65 percent (CI: 02.51-08.51) versus 22.65 percent (CI: 17.57-29.74 p-value= 0.001), 13.55 percent (CI: 09.56-18.87) versus 56 percent (CI: 05.99-14.89), 04.65 percent (02.51-08.47) versus 5.62(03.03-10.18), 27.91 percent (22.27-34.32) versus 29.53 (23.48-36.41), and 26.63 percent (21.10-33.02) versus 06.82 (03.89-11.68, p-value= ≤ 0.001) respectively. In HIV patients, being middle-aged (40-50 years) was the sole independent predictor of mortality.

Conclusion. HIV positive inpatients had a higher overall prevalence of major NCDs than HIV negative inpatients. Increasing age is a significant predictor of mortality in hospitalized HIV positive patients. Prioritizing screening infrastructure and service capacity to reduce the burden of NCDs in PLHIV is critically important.

Key words: non-communicable diseases, Hospitalized HIV patients, burden.

Oral Communication #10

Congenital hypothyroidism: A Case report of Siblings.

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Background: Congenital hypothyroidism (CHT) remains an underdiagnosed condition in our communities. A high index of suspicion, and access to specialist care is important in improving diagnosis, and outcomes of treatment of CHT. We describe a case of two siblings; a sister diagnosed at 8 months and the brother at 3 months. There was no family history of thyroid disease.

Methods: Case A (NM), presented initially as a referral from a nutritional facility at 8 months of age, due to poor feeding, poor response to therapeutic feeds, and failure to thrive. On evaluation was found to have typical features of CHT; excessive sleepiness, recurrent constipation, developmental delay, coarse facies, generalized hypotonia. Her length was 60cm (3rd Centile) and weight 6 kg (less than 3rd centile), and head circumference was 40cm (10th centile). She had no goitre. Her initial laboratory findings showed a Thyroid Stimulating hormone (TSH) level of > 60 IU/ml (0.25-5), and Free Tetra iodothyronine (FT4) of < 1.00 pmol/L (10.6-19.4). An ultrasound of the neck revealed a normal thyroid. A diagnosis of CHT was made, and treatment with oral levothyroxine was initiated at a dose of 10ug/kg. Currently, child is 6.5 years, and her weight is 20kg (25th centile), Height 117 cm (50th Centile) and current dose is 3ug/kg and attending preschool.

Case B (the brother), was brought by his mother at 3 months of age to the endocrine clinic after noting some of the symptoms the sister had before therapy for CHT. On evaluation, he was found to report excessive sleepiness, recurrent constipation, poor feeding. Other signs included hoarse voice, coarse facies, large umbilical hernia, and generalized hypotonia. His weight was 5.5kg (25th centile), length 50 cm (less than 3rd centile), and head circumference 39 cm (10th centile). His initial laboratory findings showed a TSH >100.0 IU/ml (0.25-5), and FT4 < 0.748 pmol/L (10.6-19.4). An ultrasound of the neck revealed a normal thyroid. Treatment with oral levothyroxine was initiated at a dose of 20 ug/kg. Currently, child is 14 months and his dose is 10 ug/kg. The child has made his first steps. Growth parameters are as follows; weight 10kg (25th centile), height 74cm (10th centile), and head circumference is 44.3cm (25th centile).

Conclusion: This report highlights the need for high index of suspicion among health workers to ensure early diagnosis of CHT to prevent developmental delay and the role of genetic diagnosis in understanding the etiology of CHT.

Oral Communication #11

Title: Cryptococcosis Complicating Diabetes Mellitus: Analysis of 142 Cases.

Background: A better understanding of the epidemiology of cryptococcal infection in HIV negative individuals is an international research interest. Immune dysfunction in diabetes mellitus (DM) significantly increases the risk of acquiring and reactivation of infection due to *Cryptococcus neoformans*. Risk factors and outcomes of cryptococcosis in DM are not well documented.

Objective: To determine the clinical characteristics and outcomes of cryptococcal infections in persons living with DM.

Methods: MEDLINE (via PubMed), EMBASE, and the Cochrane Library databases were searched in November 2020. The searches covered the period between 1980 and 2020. We included studies that reported confirmed cryptococcosis in patients with DM. Reference lists of included articles were also searched, and additional studies were included if appropriate. No language restriction was applied. Single case reports, case series and original articles were included while review articles were excluded.

Results: Twenty-eight studies (24 single case reports, 4retrospectives) were included involving 47 unique patients from Asia (17 cases), North America (6 cases), South America (3 cases) and Africa (2 cases). Men constituted 75%, (n=18) of the cases. Median age was 60.5 (range: 27-79) years. Majority of the patients had cryptococcal meningitis (68.1%, n=32) followed by disseminated cryptococcosis (6.4%, n=7), and others (isolated cutaneous disease 1, peritonitis 1, pleural 1, thyroid 1, adrenal 1) . Diagnosis was achieved through either culture and microscopy (38/47), cryptococcal antigen tests (9/47) or histopathology (9/47) singly or in a combination. All-cause mortality was 38.3%(n=18). Among those with meningitis mortality was 36.2%.

Conclusion: A wide spectrum of cryptococcal infections with varying severity occur in DM. Mortality remains unacceptably high. There is a need for more studies to better characterise cryptococcal disease in DM

EADSG INITIATIVES

EADSG is proud to present sessions related to the mission and activities of the Association.

EADSG AWARD LECTURES

The EADSG Congress 2023 features a series of Award Lectures that recognise the contributions made by individuals to advance diabetes care and prevention worldwide and with special focus to the East African Population

The Dr Erick Njumwa Mngola Memorial Lecture

Awardee: Dr. Warren Rhen Wei Lee (Singapore), for his contribution to clinical diabetes.
Topic: Relevance of early diagnosis and management of Type 1 Diabetes in low and middle income countries

The Prof Donald McLarty Memorial Lecture

Awardee: Prof Nihal Thomas (India) for his contribution to Diabetes Research
Topic: Diabetes Phenotypes in low and middle income countries

The Sir Albert Cook Memorial Lecture

Awardee: Prof Andre Pascal Kengne (RSA)
Topic: Relevance of Diabetes Riskscore for early diagnosis in LMIC

EADSG ILONDO MBERENGE MAPOKO ACHIEVERS AWARD

Early this year the East Africa Study Group (EADSG) initiated the **EADSG Ilondo Mberenge Mapoko Achievers Award** for young scientists. The Award is named in recognition of **Dr. Ilondo Mbelenge Mapoko** and his outstanding scientific work in metabolism and for his being a key stimulant for training of young scientists from the Africa Region. **Dr. Ilondo Mbelenge Mapoko** is a native of the East Africa Region. The award has been prepared to encourage young persons in research in the world of NCDs specifically Diabetes. The first round will be presented two young researchers with outstanding oral presentation at the EADSG Congress slated for 26th -28th April 2023 in Dar es Salaam Tanzania. In the subsequent years this award will comprise an attachment of about three months in a centre of excellence in research in diabetes.

EADSG E-DIABETES



The e-diabetes was started in 2018 and now hosted and gives CME accreditation. We thank Dr. Line Kleinebriel and the team in Paris for their commitment to see the work through.

INTERNATIONAL INSULIN FOUNDATION (IIF)

In 2020, the East Diabetes Study Group officially became the custodian of IIF and is actively initiating its work in this area now that the COVID-19 pandemic seems be steadily getting under control.

COMING CONGRESSES

AFRICA DIABETES CONGRESS 2024

SAEMN, IDC, ISE



**AFRICA
DIABETES
CONGRESS**

Under ISE and IDF aegis are held 5th Congress of African Society of Endocrinology Metabolism Nutrition (SAEMN) and 5th African Diabetes Congress (ADC), October, 7 – 11th 2024, Abidjan - Ivory Coast

EADSG 7TH CONGRESS 2025

SPEKE HOTEL & CONFERENCE CENTRE

KAMPALA, UGANDA

TUESDAY, 29 APRIL 2025

TO

FRIDAY, 2 MAY 2025





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