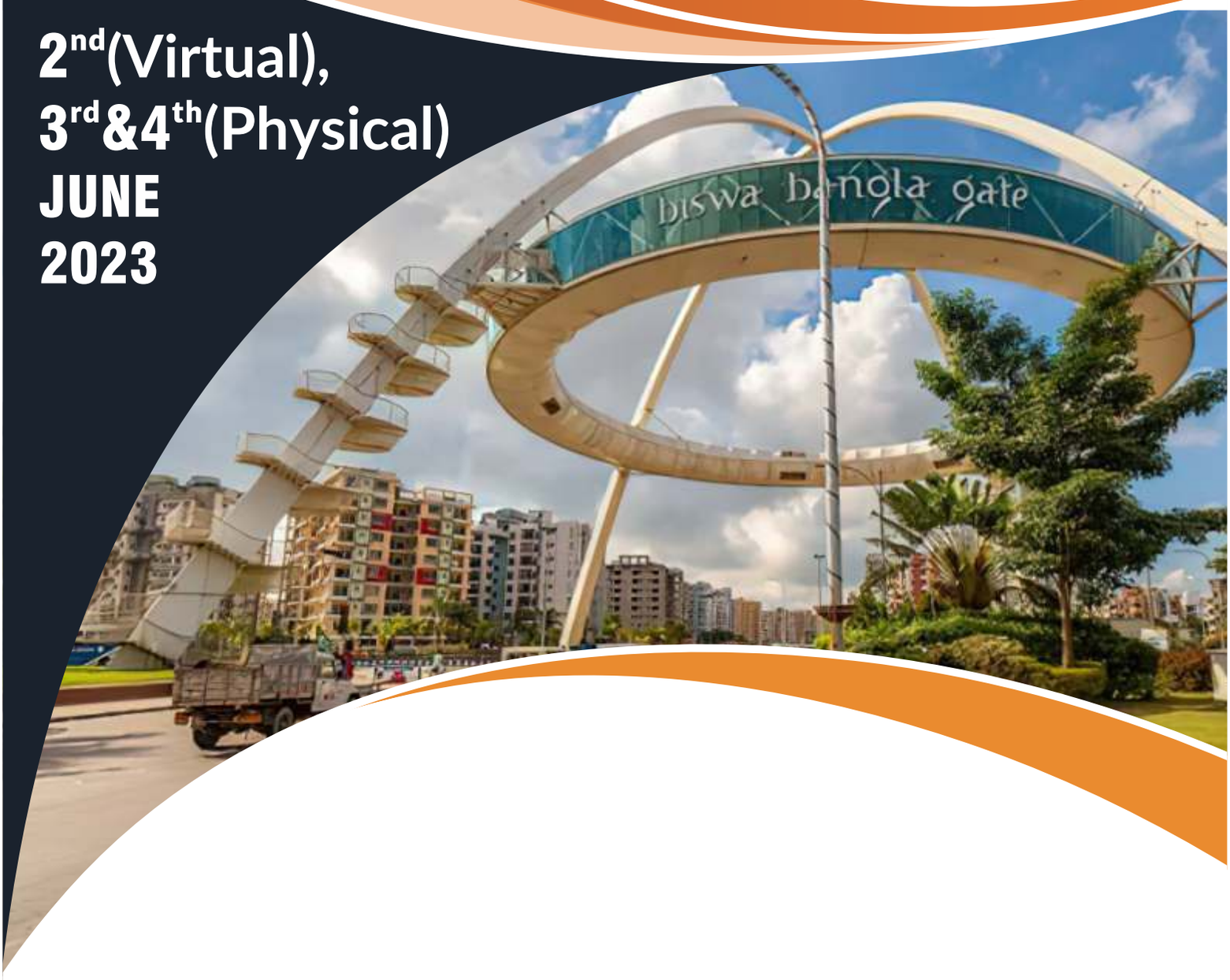
DRWA 10TH ANNUAL CONFERENCE, KOLKATA

Theme
"Recent Advances"

2nd(Virtual),
3rd&4th(Physical)
JUNE
2023



Venue : Biswa Bangla Convention Centre

Organising Committee

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Prof. A K Das
Dr. Rajeev Chawla

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Dr. Samar Banerjee
Dr. Apurba Mukherjee
Dr. Mangesh Tiwaskar
Dr. Banshi Saboo.
Dr. Hemant P Thacker

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Dr. Anuj Maheshwari
Dr. N K Singh
Dr. Jayant Panda

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Dr. Dinesh Agarwal
Dr. Lily Rodrigues
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Dr. Tamonash Bhattacharya
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Dr. Bijay Patni

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Dr. Partha Biswas
Dr. Indrasish Mukherjee

Transport
Dr. Malay Kanti Das
Dr. Arindam Sur

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Dr Amit Dey
Dr Mohsin Aslam

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Dr. Anirban Sinha,
Dr. T. Satpathi,
Dr. Shambo S Samajdar,
Dr. Arunangshu Chakraborty,
Dr. Agnik Pal

Reception
Dr. S S Poddar
Dr. P C Hazra

Reception Sub Committee
Dr. Gautam Banerjee
Dr. R L Joshi
Dr. O P Sharma
Dr. B K Pandey
Dr. D D Basu

Faculties

Virtual attendee

Dr. Abhay Narain Rai (Gaya)
Dr. Abhishek Kumar (Patna)
Dr. Ambar Basu (UK)
Dr. Arun Shankar (Kerala)
Dr. Anubha Srivastava (Pragyaraj)
Dr. Arundati Dasgupta (Siliguri)
Dr. Anurag Varma (Pragyaraj)
Dr. Benny Negalur (Mumbai)
Dr. B. M. Makkar (Delhi)
Dr. Hemant P. Thacker (Mumbai)
Dr. Iryna Vlasenko (Ukraine)
Dr. Jimit Vadgama (Surat)
Dr. Mayura Choudhari Kale (Aurangabad)
Dr. Meena Chhabra (Delhi/US)
Dr. Nosehy Yousef (Egypt)
Dr. Parikshit Goswami (Himmatnagar)
Dr. Prakash Keswani (Jaipur)
Dr. Partha Kar (UK)
Dr. Swati Srivastava (Jaipur)
Dr. Shahjada Selim (Dhaka)
Dr. Vikas Singh (Patna)
Dr. Vijay Negalur (Mumbai)

Physical attendees

A K Tewari
A K Ohja
Avijit Kundu
Abhishek Arun
Prof. A K Das
Abhay Sahoo
A K Das
Abhishek Srivastava
Agnik Pal
Akash Singh
Alok Modi
Amit Dey
Amit Gupta
Amit Kumar
Anand Shankar
Anirban Sinha
Anuradha Kapoor
Anupama Ramkumar
Anuj Maheshwari
Apurva Mukherjee
Arjun Baidya
Arindam Sur
Arun Kedia
Arvinda J
Ashish Dengra
Ashish Saxena
Ashutosh Mishra
Atrayee Roychoudhury
Basab Ghosh
Babu Rajendra Naik
Beatrice Anne
Bijay Patni
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B K Singh
Brijmohan
D P Maurya
Dhiraj Kapoor
Debasis Basu
Dhruvi Hasnani
Dishank Patel
Dinesh Agarwal
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GC Gulgulia
Jayant Sharma
J K Sharma
Jasjeet Wazir
Jyotirmoy Pal
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K G Suresh
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K K Tripathi
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Mary Dcruz
Mayur Agarwal
Md Riyaz
Minal Mohit
Mohsin Aslam
Mukulesh Gupta
Mukhya Prana Prabhu
N Bhavatharini
N K Singh
Narsing Verma
Prasanth Sankar
Partha Biswas
Panchali Roy
Pratap Jethwani
R K Agarwala
Rajnish saxena
Rajeev Chawla
Rakesh Parikh
Rupam Das
Rutul Gokhlani
S S Dariya
Samar Banerjee
Sajid Ansari
Sekhar Chakraborty
Sarita Bajaj
Shaibal Guha
Shalini Jaggi
Shambo D Samajdar
Shankha Sen
Sidhartha Das
Soumya Sengupta
Soumya Kanti Dutta
Subhash Kumar
Sujoy Ghosh
Sunil Gupta
Sudhir Ch Jha
Silima S Tarenia
Supratik Bhattacharya
Surjadeep Sengupta
Tamonash Bhattacharya
Trinanjan Sanyal
Vinay Dhandhania
Vinod Mittal
Vipul Chavda

DRWA 10th ANNUAL CONFERENCE KOLKATA

2nd June 2023

DRWA Virtual Programme

Timings	Topic	Speaker
	CARDIOLOGY SYMPOSIUM	
02:00 PM - 02:20 PM	ECG based discussion of Interesting Diabetic Cases.'	Dr. Abhay Narain Rai (Gaya)
02:20 PM - 02:40 PM	New Treatment Possibilities For Cardiovascular Residual Risk In Diabetes Mellitus?	Dr. Hemant P. Thacker (Mumbai)
02:40 PM - 03:00 PM	Management of Atrial Fibrilation Recent Update	Dr. Vikas Singh (Patna)
03:00 PM - 03:20 PM	How Far We Have Come, How Far We Have Yet To Go In Atherosclerosis	Dr. Nosehy Yousef (Egypt)
	MIXED BAG	
03:20 PM - 03:40 PM	Practical Approaches To Increase Immunization Rates In Adults	Dr. Abhishek Kumar (Patna)
03:40 PM - 04:00 PM	Genetics, Ethnicity And Type Ii Diabetes Mellitus	Dr. Ambar Basu (UK)
04:00 PM - 04:20 PM	Management Of Lada - Recent Consensus	Dr. Arun Shankar (Kerala)
	RENAL SYMPOSIUM	
04:20 PM - 04:40 PM	Diabetic Kidney Disease - How to Differentiate From CKD	Dr. Benny Negalur (Mumbai)
04:40 PM - 05:00 PM	Common Inpatient Acid- Base Disorders - A Clinical Approach	Dr. Swati Srivastava (Jaipur)
	GUIDELINES & UPDATES	
05:00 PM - 05:20 PM	Recent Guidelines On The Management of T2dm	Dr. Parijat De (UK)
05:20 PM - 05:40 PM	Challenges In Implementing International Guidelines in Local Practice	Dr. Iryna Vlasenko (Ukraine)
05:40 PM - 06:00 PM	Current Update on Diabetes Remission	Dr. Vijay Negalur (Mumbai)
06:00 PM - 06:20 PM	Aace 2023 Guidelines	Dr. Parikshit Goswami (Himmatnagar)
	RSSDI ORATION	
06:20 PM - 06:40 PM	RSSDI CLINICAL PRACTICE RECOMMENDATIONS 2023	Dr. B. M. Makkar (Delhi)
	TECHNOLOGY IN DIABETES MELLITUS	
06:40 PM - 07:00 PM	CGM IN T2DM - NEWER EVIDENCES	Dr. Mayura Choudhari Kale (Aurangabad)
07:00 PM - 07:20 PM	ADJUNCT THERAPIES IN T1DM	Dr. Partha Kar (UK)
	ENDOCRINE SYMPOSIUM	
07:20 PM - 07:40 PM	Endocrine Causes of Diabetes Mellitus	Dr. Anubha Srivastava (Pragyaraj)
07:40 PM - 08:00 PM	Work up of Cushing's	Dr. Arundati Dasgupta (Siliguri)
08:00 PM - 08:20 PM	Thyroid Dysfunction & Diabetes Mellitus - The Relationship	Dr. Jimit Vadgama (Surat)
08:20 PM - 08:40 PM	Assessment of Thyroid Nodules	Dr. Shahjada Selim (Dhaka)
08:40 PM - 09:00 PM	Unusual Presentation of Hypothyroidism	Dr. Prakash Keswani (Jaipur)
	MENTAL HEALTH SYMPOSIUM	
09:00 PM - 09:20 PM	Assessment of Mental Health In Diabetes Mellitus - Clinician Perspective	Dr. Anurag Varma (Pragyaraj)
09:20 PM - 09:40 PM	Addictions And Diabetes Melltus	Dr. Meena Chhabra (Delhi/US)

CHAIRPERSONS FOR THE PROGRAMME

Dr. Bijay Patni
Dr Supratik Bhattacharya
Dr. Amit Dey
Dr. M H Sanwarwala
Dr. Partha Biswas
Dr. Mohsin Aslam

DRWA 10th ANNUAL CONFERENCE KOLKATA

3rd June 2023

DRWA Scientific Programme
(Physical Agenda)

B C ROY HALL

9:00 AM - 10:20 AM (03/06/2023) - CASE PRESENTATIONS

Rapporteur : Dr. P C Hazra

Presenter: Dr. Mohsin Aslam (9:00 AM – 9:10 AM)

Dr. Arindam Sur (9:15 AM – 9:25 AM)

Dr. Jayant Sharma (9:30 AM – 9:40 AM)

Dr. Dishank Patel (9:45 AM – 9:55 AM)

Dr. Tamanosh Bhattacharya (10:00 AM – 10:10 AM)

10:20 AM - 11:20 AM (03/06/2023) - LECTURES - I

Rapporteur : Dr. O P Sharma

Chairpersons : Dr. Dhruvi Hasnani, Dr. Vipul Chavda, Dr. G C Gulgulia

Dr. Akash Kumar Singh : Musculoskeletal Manifestations in Diabetes (10:20 AM – 10:35 AM)

Dr. Ashish Saxena : Travel medicine for internist (10:40 AM – 10:55 AM)

Dr. Babu Rajendra Naik : Vitamin D and metabolic diseases (11:00 AM – 11:15 AM)

11:20 AM - 12:20 PM (03/06/2023) - LECTURES - II

Rapporteur : Dr. Agnik Pal

Chairpersons : Dr. Rutul Goklani, Dr. Dharmendra Panchal, Dr. Manohar Galla

Dr. K G Suresh : Recent updates in Diabetes Retinopathy (11:20 AM – 11:35 AM)

Dr. Amit Kumar : Common & Rare Skin Manifestations in Diabetes – A Practical Approach (11:40 AM – 11:55 AM)

Dr. Samar Banerjee : Mitochondrial dysfunction and diabetes(12:00 PM – 12:15 PM)

12:30 PM – 1:30 PM (03/06/2023) - Orations

Rapporteur : Dr. Partha Biswas

Chairpersons : Dr. Supratik Bhattacharyya, Dr. Amit Dey

ICP DEAN ORATION - Dr.Jyotirmoy Pal : Diabetes & Tuberculosis (12:30 PM – 1:00 PM)

Chairpersons : Dr. Bijay Patni, Dr.Tamonash Bhattacharya

B C Roy Oration - Dr. A K Das : Diabetes, HTN, Heart, Kidney – A multimorbid condition : Update 2023. (1:00 PM – 1:30 PM)

2:00 PM - 3:20 PM (03/06/2023) - ISCM SYMPOSIUM

Rapporteur : Dr. Tamanosh Bhattacharya

Moderator : Dr. Narsing Verma

Dr. Narsingh Verma : Beta cells kinetics in diabetes (2:00 PM – 2:15 PM)

Dr. K KTripathi : Personalized circadian medicine may be the future (2:20 PM – 2:35 PM)

Dr. Ashutosh Mishra : Relationship of Clock gene with disease of Ageing (2:40 PM – 2:55 PM)

Dr. Madhav Prabhu : Medicine Secret Ingredients – It is in the timing (3:00 PM – 3:15 PM)

3:20 PM – 3:45 PM (03/06/2023) - KEYNOTE ADDRESS

Rapporteur : Dr. Indrasish Mukherjee

Chairpersons : Dr. M H Sanwarwala, Dr. Arjun Baidya

Dr. Sarita Bajaj : NAFLD & CVD – A call to action (3:20 PM – 3:40 PM)

DRWA 10th ANNUAL CONFERENCE KOLKATA

3rd June 2023

DRWA Scientific Programme
(Physical Agenda)

B C ROY HALL

3:45 PM – 4:45 PM (03/06/2023) - ISH SYMPOSIUM

Rapporteur : Dr. Tapas Bhattacharya

Moderator : Dr. Narsingh Verma

Dr. L Sreenivas Murthy – **Key Note Address :** Current evaluation and treatment of Hypertension – An Overview (3:45 PM – 4:00 PM)

Dr. Bijay Patni : Home Blood Pressure Monitoring (4:05 PM – 4:20 PM)

Dr. Sajid Ansari : Inpatient Hypertension: Best practices (4:25 PM – 4:40 PM)

4:45 PM - 5:45 PM (03/06/2023) - Internal Medicine – Updates

Rapporteur : Dr. S S Poddar

Chairpersons : Dr. Brijmohan, Dr. B K Singh, Dr A K Ohja

Dr. Bhaskar Ganguly : An approach to PUO in diabetes (4:45 PM – 5:00 PM)

Dr. Surjadeep Sengupta : Cardiovascular screening in athletes (5:05 PM – 5:20 PM)

Dr. Shekhar Chakraborty : Women's health and infectious diseases (5:25 PM – 5:40 PM)

5:45 PM – 6:15 PM (03/06/2023) : INAUGURATION

6:15 PM – 6:50 PM (03/06/2023) - Special Situations in Diabetes

Rapporteur : Dr. Agnik Pal

Chairpersons : Dr. Abhishek Shrivastava, Dr. Shankha Sen, Dr. Silima Subhasnigdha Tarenia

Dr. K N Manohar : Sleep Disorders & Diabetes – An emerging cause of concern (6:15 PM – 6:30 PM)

Dr. Mukulesh Gupta : Managing elderly diabetics with frailty & multi-morbidity (6:35 PM – 6:50 PM)

6:55 PM - 9:00 PM (03/06/2023) - Recent Updates in DM

Rapporteur : Dr. B K Pandey

Chairpersons : Dr. Anuradha Kapoor, Dr. D P Maurya, Dr. Bhaskar Ganguly

Dr. Brijmohan : Diabetes Kidney disease in Type 1 and Type 2 diabetes—The same disease? (7:00 PM – 7:15 PM)

Dr. Sujoy Ghosh : Bone health in Type 1 DM (7:20 PM – 7:35 PM)

Dr. Apurba Mukherjee : Controversies in defining prediabetes and unexplained CV risk (7:40 PM – 7:55 PM)

Dr. Pratap Jethwani : Inpatient management of diabetes Mellitus: Recent update (8:00 PM – 8:15PM)

Dr. R K Agarwala : is longer better? looking for different basal approaches (8:20 PM – 8:35 PM) (Sanofi Sponsored)

Dr. Soumya Kanti Ghosh : An important aspect in management of HFrEF (Novartis sponsored)

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3rd June 2023

DRWA Scientific Programme
(Physical Agenda)

NIL RATAN SIRCAR HALL

9:00 AM – 10:00 AM (03/06/2023) - MANUSCRIPT WORKSHOP

Rapporteur : Dr. Malay Das

Moderator : Dr. Anupama Ramkumar

Dr. Alok Modi- Prepare your manuscript (9:00 AM – 9:15 AM)

Dr. Anupama Ramkumar : Find a suitable journal for your manuscript (9:20 AM – 9:35 AM)

Dr. Shambo S Samajdar : Submission of Manuscript: The final step (9:40 AM – 9:55 AM)

10:00 AM - 11:00 AM (03/06/2023) - MOTIVATIONAL WORKSHOP

Rapporteur : Dr. Indrasish Mukherjee

Moderator : Dr. Subhash Kumar

Dr. Malay Kanti Das (10:00 AM- 10:10 AM)

Dr. Partha Biswas (10:15 AM – 10:25 AM)

Dr. Abhishek Shrivastava (10:30 AM- 10:40 AM)

Dr. D P Maurya (10:45 AM- 10:55 AM)

11:00 AM -11:45 PM (03/06/2023) - NUTRITION WORKSHOP

Rapporteur : Dr. Arindam Sur, Dr. M H Sanwarwalla

Dr Dharmendra Panchal : FAD Diets – Its Significance in Diabetes (11:00 AM – 11:10 AM)

Dr. Soumyendu Ghosh : Overview of Diet in Diabetes (11:15 AM – 11:25 AM)

Dr. Abhishek Arun : Intermittent Fasting in Diabetes – Recommendations (11:30 AM – 11:40 AM)

11:45 AM -12:30 PM (03/06 /2023) - INSULIN WORKSHOP

Rapporteur : Dr. Mohsin Aslam

Moderator : Dr. Dhruvi Hasnani – Why Insulin Workshop (11:45 AM – 11:50 AM)

Dr. Atreyee Roy Chowdhury : Interpretation of HbA1c graph (11:50 AM – 12:00 PM)

Case-based discussion : (12:00 PM – 12:30 PM)

Panelists: - Dr. Mohsin Aslam, Dr. Agnik Pal, Dr. Prashant Sankar

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3rd June 2023

DRWA Scientific Programme
(Physical Agenda)

NIL RATAN SIRCAR HALL

ORATIONS IN B C ROY HALL – 12:30 PM -1:30 PM (03/06/2023)

2:00 PM – 3:00 PM (03/06/2023) - FOOT WORKSHOP

Rapporteur : Dr.D D Basu

Moderator : Dr. Shailesh Chhotala

Panelists : Dr. Basab Ghosh, Dr. Soumya Sengupta, Dr. Rajnish Saxena, Dr. S S Dariya

3:00 PM – 4:15 PM (03/06/2023) - TECH WORKSHOP

Moderator : Dr. Amit Dey

Dr. Bharat Saboo -AI in Diabetes management (3:00 PM – 3:15 PM)

Dr. Rutul Goklani – CGM & Insulin pump (3:20 PM – 3:35 PM)

Dr. Rakesh Parikh : Technology beyond CGM & Pumps (3:40 PM – 3:55 PM)

4:15 PM - 5:30 PM (03/06/2023) - OBESITY WORKSHOP

Moderator: Dr. Supratik Bhattacharya

Panelists: Dr. Faraz Farishta, Dr. Minal Mohit, Dr. Vipul Chawda, Dr. Shaibal Guha

5:45 PM – 6:15 PM INAUGURATION – B C ROY HALL

6:15 PM – 7:55 PM (03/06/2023) - Cardiology in DM – Updates

Rapporteur : Dr. R L Joshi

Chairpersons : Dr. Arjun Baidya, Dr. Anirban Sinha

Dr. Rupam Das : Early diagnosis of diabetic cardiomyopathy (DCM) (6:15 PM – 6:30 PM)

Dr. Jasjeet Wazir : Management of Dyslipidemia beyond Statins (6:35 PM – 6:50 PM)

Dr. Vinod Mittal : Role of SGLT2 Inhibitors in Diabetic CVD – Focus on Immunity, Infiammation, and Metabolism (6:55 PM – 7:10 PM)

Dr. Manoj Srivastava : Current update on Management of Diastolic Dysfunction (7:15 PM – 7:30 PM)

Dr. Arun Kedia : SGLT2i and GLP-1RA in cardiovascular disease-An Update for Clinical Practice in 2023 (7:35 PM – 7:50 PM)

8:00 PM – 9:00 PM (03/06/2023) - LECTURES

Rapporteur : Dr. Shambo S Samajdar

Chairpersons : Dr. Lily Rodrigues, Dr. Beatrice Anne, Dr. Panchali Roy

Dr. Vinay Dhandhania : Hypoglycemia as a Quality Measure—Rationale, Challenges, and Opportunities (8:00 PM – 8:15 PM)

Dr. Dinesh Agarwal : Dual Incretins – An Update (8:20 PM – 8:35 PM)

Dr. Rajiv Kovil : Monogenic Diabetes (8:40 PM – 8:55 PM)

NETWORKING DINNER: 9:00 PM ONWARDS

DRWA 10th ANNUAL CONFERENCE KOLKATA

4th June 2023

DRWA Scientific Programme
(Physical Agenda)

NIL RATAN SIRCAR HALL

8:00 AM-10:00 AM (04/06/2023) - ORAL PAPER PRESENTATIONS

Rapporteur : Dr. Partha Biswas

Judges : Dr. K Tripathi, Dr. Mukhya Prana Prabhu, Dr. R K Agarwala

10:00 AM - 10:30 AM (04/06/2023) - DEBATE

Rapporteur : Dr. S S Poddar

Chairpersons : Dr. N K Singh, Dr. Mohsin Aslam

Dr. Arvinda J : Against the motion - Telehealth Increases Access, Fosters Innovations, and Achieves at Least Equivalent Outcomes to In-Person Care (10:00 AM – 10:10 AM)

Dr. A K Das : For the motion - Telehealth Increases Access, Fosters Innovations, and Achieves at Least Equivalent Outcomes to In-Person Care (10:10 AM – 10:20 AM)

Rebuttal – Dr. Arvinda J (10:20 AM – 10:22 AM)

Rebuttal – Dr. A K Das (10:23 AM – 10:25 AM)

10:30 AM – 12.45 PM(04/06/2023) - ACP INDIA Chapter SYMPOSIUM

Rapporteur : Dr. P C Hazra

Moderator : Dr. Anuj Maheshwari, Governor, ACP India.

Dr. Anuj Maheshwari : Insight Into C-Peptide and Diabetes (10:30 AM – 10:45 AM)

Dr. J K Sharma : Deintensification of Diabetes Treatment in Elderly (10:50 AM – 11:05 AM)

Dr. Amit Gupta : Improving patient health during the climate crisis (11:10 AM – 11:25 AM)

Dr. Divya Saxena : COPD pearls for primary care (11:30 AM – 11:45AM)

Dr Mukhya Prana Prabhu : Alzheimer's Disease – What you probably don't but you should know (11:50 PM – 12:05 PM)

Dr. Ajoy Tiwari : Art of Prevention of Common Prescribing Errors (12:10 PM – 12:25 PM)

Dr. Shankha Sen : Updates in ADA's Standards of Care in Diabetes-2023 (12:30 PM – 12:45 PM)

12:50 PM – 1:55 PM: ORATION IN B C ROY HALL

2:00 PM – 4:00 PM (04/06/2023) - MIXED BAG

Rapporteur : Dr. O P Sharma

Chairpersons : Dr. T K Satpati, Dr. Partha Biswas, Dr. Silima Subhasnigdha Tarenia

Dr. Prashant Advani : Pearls and Pitfalls of Anti-Coagulation (2:00 PM – 2:15 PM)

Dr. B K Singh : Best Approach to the Management of Painful Diabetic Neuropathy (2:20 PM – 2:35 PM)

Dr. Anirban Sinha : Cancer-related Safety with SGLT-2 Inhibitors & GLP-1 Receptor Agonists – Should we worry (2:40 PM – 2:55 PM)

Dr. Arjun Baidya : PCOS – Recent Update (3:00 PM – 3:15 PM)

Dr. Lily Rodrigues : Adverse effects of common Diabetes Medications (3:20 PM – 3:35 PM)

Dr. Mary D Cruz – Legal issues in Diabetes (3:40 PM – 3:55 PM)

VALEDICTORY FUNCTION: 4:00 PM ONWARDS

NOTE

LUNCH (3rd June) : 1:30 PM – 2:30 PM

HIGH TEA (3rd June) : 4:00 PM – 5:30 PM

DINNER (3rd June) : 9:00 PM ONWARDS

LUNCH (4th June) : 2:00 PM – 3:00 PM

INAUGURATION 3rd June - 5:45 pm - 6:15 pm

DRWA 10th ANNUAL CONFERENCE KOLKATA

4th June 2023

DRWA Scientific Programme
(Physical Agenda)

B C ROY HALL

9:00 AM – 10:20 AM (4/6/2023) - TYPE 1 RECENT UPDATES

Rapporteur : Dr. Agnik Pal

Chairpersons : Dr. K N Manohar, Dr. Boudhyan Das Munshi

Dr. Beatrice Anne : Insulin pumps in T1DM in resource-limited settings (9:00 AM – 9:15 AM)

Dr. Mayur Agarwal : Precision Biologics for the treatment of T1DM (9:20 AM – 9:35 AM)

Dr. Dhiraj Kapoor : Impact of short- and long-term glycemic control on cardiovascular risk in people with T1DM (9:40 AM – 9:55 AM)

Dr. Ashish Dengra : Management of Youth with Obesity and T1DM (10:0 AM – 10:15 AM)

10:30 AM – 11:50 AM(4/6/2023) - GDM Symposium

Rapporteur : Dr. Tapas Bhattacharya

Moderator : Dr. Anand Shankar

Dr. Alokananda Ray : Pre-Pregnancy Workup (10:30 AM – 10:45 AM)

Dr. N Bhavtharini : Primordial Prevention –the way forward to arrest GDM (10:50 AM – 11:05 AM)

Dr. Shalini Jaggi : Controversy in Diagnosis of GDM-An Update (11:10 AM –11:25 AM)

Dr. Sunil Gupta - Pharmacotherapy in GDM (11:30 AM – 11:45PM)

12:00 PM – 12:45 PM (04/06/2023) - KEYNOTE ADDRESS

Chairpersons: Dr. Amit Dey, Dr. M H Sanwarwala

Keynote Address - 1: Dr. Sidhartha Das: Proteinuric to Non-Proteinuric Nephropathy in DM – Paradigm Shift (12:00 PM – 12:20 PM)

Chairpersons : Dr.Rakesh Parikh, Dr Brijmohan

Keynote Address - 2 : Dr. Jayant Panda:Lifestyle changes necessary for mitigating cardiometabolic risk (12:25 PM – 12:45 PM)

12:50 PM – 1:50 PM (04/06/2023) - Orations

Rapporteur : Dr. Partha Biswas

Chairpersons : Dr. Anuj Maheshwari, Dr. Sunil Gupta

V Sessiah Oration - Dr. Rajeev Chawla: My Journey in Diabetes in Pregnancy (12:50 PM – 1:20 PM)

Chairpersons : Dr. Bijay Patni, Dr. Supratik Bhattacharyya

DRWA Oration - Dr. Mangesh Tiwaskar : Insulin - Centurion: Nostalgia Revisited (12:25 PM – 1:55 PM)

2:00 PM – 4.00 PM (04/06/2023) - LECTURES

Rapporteur : Dr. S S Poddar,

Chairpersons : Dr. Silima Subhasnigdha Tarenia , Dr. TrinanjanSanyal

Dr. Abhay Sahoo : Two Decades of Diabetes Prevention Efforts – A Call to Innovate & Revitalize the Approach (2:00 PM – 2:15 PM

Dr. N K Singh : LIFESTYLE MEDICINE AS AN UPCOMING SUBSPECIALITY IN MANAGING METABOLIC DISEASES (2:20 PM – 2:35 PM)

Dr. Sudhir Chandra Jha : Severe Insulin Resistance - Treatment Approach (2:40 PM – 2:55 PM)

Dr. B K Singh : Best Approach to the Management of Painful Diabetic Neuropathy (3:00 PM – 3:15 PM)

Dr. Debasis Basu : An upstream approach to address the weight of diabetes with oral Semaglutide (3:20 PM – 3:35 PM) (Novo sponsored)

Dr. AvijitKundu : Biosimilar Glargine – Addressing the critical need of accessibility, availability and affordability (3:40 PM – 3:55 PM)(Biocon sponsored)

Valedictory Function: 4:00 PM onwards

DRWA 10th ANNUAL CONFERENCE

Message from President

It is indeed an honor to be at the helm of Diabetes Research and Welfare association which is now considered a prime diabetic association pan India. I welcome our chief guest, all the faculties and delegates for joining us at the DRWA Diabetes Update 2023. During the year 2022-23 we have organized regular monthly CMEs and webinars, which were appreciated and well attended.

Many of our members presented their research papers in international and national events, they have made us all proud and we continue to encourage them and expect more members to come forward and involve themselves in research activities. On the social front besides organizing various diabetes camps, we also organized a mega event on World Diabetes Day at New town Kolkata, our association is now also running a diabetic OPD clinic at Jagdishpur Howrah in collaboration with Lions club.

For those faculties who were not able to make it physically we have arranged a virtual meeting on the 2nd of June. For those of you who are present physically we have an interesting academic program lined up on 3rd and 4th June.

I congratulate the organizing team for overcoming all hurdles to successfully organize this event.

I thank the pharmaceutical industry and other sponsors for joining hands and providing the impetus to organize this meet on such a large scale and expecting similar response in the coming years as well.

Hope you all enjoy this academic feast, forgive minor lapses, and have a great time in the City of Joy.

Long Live DRWA.

Dr. M.H. Sanwarwalla

President, DRWA

From The Desk of The Past President

Looking back at the last couple of years, in my tenure as President of Diabetes Research and Welfare Association, I am indeed proud of the achievements of our members who have won accolades at national and inter-national events. The organization has grown in stature and continues to attract members and delegates to its annual conference.

As I hand over the baton to our President Dr. M.H. Sanwarwala, the quiet strength behind DRWA, the suave, the ever-helpful, smiling and dignified, gentleman, I know the organization will rise to greater heights under his leadership.I appreciate and acknowledge the constant support from our founder members Dr. B Patni, Dr Gautam, Dr Partho Biswas and Dr. M.H. Sanwarwala.

Local members who go out of their way in spite of their busy schedules of teaching and clinical practise to support us, especially Dr.Moloy Das, Dr.Hazra and all the other esteemed members.

Our new members, Dr.Supratik, Dr Amit and Dr. Shambo are indeed a boon to us as they use digital media to promote the organization in various national and inter- national conferences.

Last but not the least, a very warm welcome to all the delegates on the occasion of the 10th annual conference in Kolkata on June 2nd and 3rd, 2023.

Long Live DRWA!

Dr. Mary DCruzM.D., FICP

Past President- DRWA

From The Desk of Organising Chairperson

I, Dr Arjun Baidya, as the chairperson, feel delighted to welcome you all to the 10th annual scientific conference of DRWA.

I am thankful to all the international and national faculties for taking time out of their busy schedules. I must also thank all the delegates and sponsors for their active participation, without which it wouldn't have been possible to conduct this event. Lastly, I hope it will be an exciting and successful scientific extravaganza.

With best regards,

Dr Arjun Baidya

Organising Chairperson

10th annual scientific conference of DRWA

From the Desk of Organizing Secretary

I have been one of the newer inclusions to the DRWA Family, yet Dr Bijay Patni, Dr M.H. Sanwarwala, Dr Partha Biswas, Dr Mary D'Cruz' and all other esteemed members of DRWA embraced me with open arms and made me feel that I was part of the family.

DRWA has really grown since inception and all credit goes to tireless efforts of all senior members who worked hard to make the vision of our Founder President Dr Bijay Patni a reality. Standing today DRWA has earned its place as an organisation who is revered for its standard of academics, keen interest in research and also spreading awareness and knowledge among patients and peers. Since I became part of the DRWA family, I was amazed to see the zeal of the members during the various academic events and overwhelming participation of delegates at the annual conference, simply because of the rich academic content and also the esteemed faculties not only from India but from across the Globe.

I am very fortunate that the senior members considered me worthy of an Office bearer's post. I am very lucky to be working under the able leadership of our Hon'ble President Dr M.H. Sanwarwala along with a very dynamic organising team which has a right mixture of experience as well as zeal and enthusiasm.

A big thank you to all Office Bearers, Organising Team of DRWA National Conference 2023, each and every DRWA member, Faculties, Delegates and our academic partner for all your valuable contributions.

Lastly, I on behalf of our DRWA family would like to welcome all of you to this City of Joy Kolkata and the beautiful newer part of the city at one of the most gorgeous venues of New Town for our Grand Annual conference 2023.

Regards

Dr Supratik Bhattacharyya

Organizing Secretary DRWA National Conference 2023

Secretary, DRWA

From the Scientific Chairperson's desk:

Dear Colleagues and Distinguished Guests,

It is with great pleasure and honor that I welcome you all to the 10th Annual conference, DRWA in the city of Kolkata from 2nd - 4th June 2023. It is a premier gathering of medical professionals and researchers from across India. As the Scientific Chairperson of this esteemed conference, I am delighted to address you and share my thoughts about this event..

First and foremost, I would like to extend my heartfelt gratitude to the organizing committee for their exceptional efforts in making it possible to hold such a huge conference. The conference serves as a catalyst for updating one's knowledge and sharing expertise with each other.

The pace at which medical knowledge is expanding is exceptional, particularly technology in the field of diabetes, and conferences like ours play a pivotal role in encouraging dialogue, and sharing ideas, for a common goal of better outcomes and improved quality of life.

The theme of this year's conference, "[Recent updates],"matches our quest for knowledge upgradation. We have curated a comprehensive scientific program encompassing a wide range of topics, including orations, keynote talks, research papers, clinical updates, and emerging trends in various medical specialties related to metabolic diseases.

Furthermore, I would like to acknowledge and express my deepest appreciation to all the presenters, researchers, and clinicians who have contributed their valuable work to this conference and has taken out time of their busy schedule to contribute to the success of this meet. We have introduced a virtual session on Ist day so that friends from across the globe can join and share their thoughts as well. I thank them, too, from the core of my heart.

Lastly, I would like to encourage all participants to actively engage in the various sessions, workshops, and interactive forums throughout the conference. Embrace this opportunity to forge new connections, collaborate on groundbreaking research, and expand your professional network.

In conclusion, I extend my warmest welcome to all attendees and wish you a fruitful and rewarding experience at this scientific extravaganza. Let us seize this opportunity to learn, inspire, and contribute towards advancements that will have a lasting impact on healthcare worldwide.

Thank you.

Sincerely,

Dr Bijay Patni

Scientific Chairperson,

10th Annual Conference, DRWA.

From the Editor's desk:

Dear esteemed conference delegates,

On behalf of the Department of Research and Writing Association (DRWA), we extend our warmest greetings and sincere appreciation for your participation in the 10th Annual Conference to be held in Kolkata. With great enthusiasm, we invite you to immerse yourself in the theme of this year's conference: "Recent updates."

The theme "Recent updates" serves as a rallying call to explore the latest advancements, breakthroughs, and discoveries across diverse fields of diabetes. This conference offers a unique platform for researchers, scholars, and practitioners to share their insights, engage in fruitful discussions, and embrace the spirit of innovation that drives our academic pursuits.

In this abstract book, we have meticulously compiled the synopsis of lectures and original research contributed by esteemed faculty members and dedicated researchers like you. These abstracts represent a tapestry of knowledge, capturing the dynamic nature of research in an ever-evolving world.

As you peruse this abstract book, you will gain valuable insights into the cutting-edge research and evidence based practice guidelines being conducted across various disciplines of diabetology. From scientific breakthroughs to novel methodologies, the abstracts encapsulate the essence of recent updates and shed light on the exciting developments happening in your areas of interest.

We extend our deepest gratitude to all the contributors who have shared their lecture synopses and original research abstracts. Your dedication to academic excellence and your willingness to share your expertise have enriched this publication and set the stage for a conference that promises to be intellectually stimulating and transformative.

Once again, we express our deepest appreciation to all the contributors of this abstract book. Your remarkable efforts and unwavering commitment to pushing the boundaries of knowledge are a testament to the vibrant academic community we belong to.

We eagerly anticipate your presence at the 10th Annual Conference in Kolkata, where we will embark on a journey of discovery, collaboration, and inspiration. Let us come together to celebrate the realm of "Recent updates" and collectively contribute to the advancement of research and academia.

With heartfelt gratitude,

Dr Shambo S Samajdar, Editor, Abstract Book

10th AnnualConference , DRWA

Abstracts

Improving Patient Health During the Climate Crisis

Author: Dr Amit Gupta, Diabetologist, New Delhi

Introduction:The climate crisis poses significant challenges to human health, encompassing a wide range of impacts resulting from climate change. As global temperatures rise, extreme weather events become more frequent, and environmental degradation intensifies, it is crucial to focus on strategies and interventions that can improve patient health during these challenging times. This article aims to explore the diverse effects of climate change on human health and propose approaches to mitigate them, enhancing overall health outcomes for patients.

Extreme Heat and Heat-related Illnesses:

1. Rising temperatures contribute to more frequent and intense heat waves, which have detrimental effects on human health. Heat-related illnesses, such as heat exhaustion and heatstroke, become more common, particularly among vulnerable populations, including the elderly, children, and individuals with chronic diseases. Strategies to address this impact include public education about heat safety, heatwave early warning systems, access to cooling centers, and urban planning that incorporates heat mitigation measures.

Air Pollution and Respiratory Health:

2. Climate change exacerbates air pollution, primarily through the increased concentration of pollutants, heat-driven smog formation, and wildfire smoke. These pollutants, such as particulate matter and ground-level ozone, can trigger or worsen respiratory conditions, including asthma, chronic obstructive pulmonary disease (COPD), and allergies. Mitigation efforts involve reducing greenhouse gas emissions, transitioning to cleaner energy sources, promoting sustainable transportation, and implementing air quality monitoring and alert systems.

Vector-borne Diseases:

3. Climate change influences the distribution and prevalence of vector-borne diseases, such as malaria, dengue fever, Zika virus, and Lyme disease. Altered temperature and precipitation patterns affect the habitats and behavior of disease-carrying vectors, expanding their geographic range and prolonging transmission seasons. Effective measures involve strengthening vector control programs, improving surveillance and early warning systems, and supporting research on vector-borne diseases in a changing climate.

Food and Waterborne Illnesses:

4. Changing climate patterns can impact food and water safety, leading to increased risks of foodborne and waterborne illnesses. Extreme weather events, such as floods and storms, can contaminate water sources and disrupt food supply chains. This heightens the potential for bacterial, viral, and parasitic infections, causing gastrointestinal disorders and other health issues. Ensuring safe water sources, implementing proper food handling practices, and enhancing food and water monitoring systems are essential for mitigating these risks.

Mental Health and Psychosocial Impacts:

5. The climate crisis also has profound effects on mental health and psychosocial well-being. Disasters, displacement, and ecological loss can contribute to anxiety, depression, post-traumatic stress disorder (PTSD), and social disruption. Strategies to address these impacts include strengthening mental health support systems, promoting community resilience, and implementing trauma-informed care in healthcare settings.

Environmental Degradation and Non-Communicable Diseases:

6. Climate change and environmental degradation contribute to the development and exacerbation of non-communicable diseases (NCDs). Air and water pollution, exposure to hazardous substances, and compromised access to healthy environments can increase the risk of cardiovascular diseases, cancer, and respiratory conditions. Combating this involves reducing pollution, promoting sustainable lifestyles, and advocating for policies that prioritize environmental health.

Conclusion: The impacts of climate change on human health are vast and varied, spanning from heat-related illnesses and respiratory problems to vector-borne diseases, mental health issues, and non-communicable diseases. Recognizing and addressing these impacts is crucial for improving patient health during the climate crisis. By implementing strategies to mitigate the specific health risks associated with different types of climate change, healthcare systems, policymakers, and communities can work together to protect the health of the community.

Art of Prevention of Common Prescribing Errors

Author: Dr.Ajoy Tewari, Senior Consultant Diabetologist

Mitigating common prescription errors could potentially save lives and prevent unwarranted medicolegal implications

Writing legibly,clearly indicating the dose , frequency and duration of treatment relation with food is of profound importance . Oral explanation of the written prescription by the health care professional can avert great mishaps .

Electronic medical records and printed prescriptions can go a long way in preventing common errors.

Checking prescribed medications physically by trained staff can reduce dosage , frequency and time of the day errors by pharmacists.

Paucity of time for the health care professional warrants the help of trained staff though vicarious responsibility lies with the treating health professional.

Use of APPs and messaging services can reinforce and negate fatal errors at the level of the patients

Musculoskeletal Manifestations of Diabetes

Author: Dr Akash Singh, Diabetologist

Diabetes Mellitus is a worldwide health problem which can affect various organs and systems of the body. Diabetes is predicted to affect 4.4% of the world population in 20301. Longer diabetic duration (more than 10 years),is correlated with an increased incidence of musculoskeletal (MSK) manifestations2. About 20–33% of people globally and about one in two adults were found to have a musculoskeletal disorders. The most common type of musculoskeletal manifestations includes cheiroarthropathy, diffuse idiopathic skeletal hyperostosis (DISH) followed by dupuytren's contracture. Commonly affected body parts include hand, shoulder, feet, muscles & skeleton. In hands it includes diabetic cheiroarthropathy (8 to 58% in T1DM, 25 to 76% in T2DM), flexor tenosynovitis (10 to 20%), carpal tunnel syndrome (20%) &dupuytren's contracture (16-42%). In shoulders, it includes adhesive capsulitis/frozen shoulder(11-30%) , calcific periarthritis (3 times more common) & reflex sympathetic dystrophy. In feet the pathologies includes diabetic osteoarthropathy (10%) and affection of muscles is in the form of diabetic muscle infarction conditions (more common in females). The skeleton manifestations include diffuse idiopathic skeletal hyperostosis (DISH) (13–49%). The exact pathophysiology of most of these musculoskeletal disorders remains unclear. Connective tissue abnormality, macrovascular, microvascular complications, inflammation and oxidative stress, caused by persistent hyperglycaemia and IR may cause increased incidence of musculoskeletal disorders in DM. The diagnosis is made based on patients' history, clinical findings, radiographic findings, computed tomography (CT), electromyogram/nerve conduction velocity (EMG/NCV) testing & magnetic resonance imaging (MRI). Treatment is generally conservative involving splinting/bracing, good glycaemic control, gentle stretching/range of motion exercises and the use of NSAIDS and/or local corticosteroid injection. Surgical intervention may be needed for severe cases3,4 .

In conclusion, musculoskeletal disorders are common in PWD (Patient with diabetes). Insufficient glycaemic control can lead to worsening of these disorders in PWD. Early management of musculoskeletal problems in PWD and maintaining good glycaemic control can prevent or improve musculoskeletal disorders, pain, morbidity, mortality and improve QoL(Quality of life).

A Concise Guide To Writing An Effective Research Manuscript For Doctors

Author: Dr. Alok Modi, MD FISH PGDI

Affiliation: Consultant Physician & Diabetologist, Dr Modi's Diabetes Centre

Introduction: The ability to communicate research findings ina well designed manuscript is essential for contributing to medical knowledge and improving patient care. Writing a research manuscript can be a daunting task, but with a systematic approach and attention to key elements, you can effectively disseminate your work to a wider audience. The purpose of this short article is to guide clinicians on how to communicate effectively and present in a concise and effective manner your research which won't get rejected by indexed journals. Another stimulus is to get your publication and name up there for academic positions. Such articles contribute for low quality publications.

Plan &organise :Before diving into writing, carefully plan and organize your research. Clearly define your research question, objectives, and hypotheses. Create a detailed outline that includes sections such as Introduction, Methods, Results, Discussion, and Conclusion. This framework will serve as a roadmap for your manuscript. Define your for-target audience.

Hypothesis: First of all have a clear hypothesis which you want to prove or disprove via your research.

Methodology: Go through the literature carefully. Most reputed journals wont accept article or research on which there are enough publications and position statements already declared. Follow Journal Guidelines: Familiarize yourself with the specific guidelines provided by the target journal. Adhere to formatting requirements, word limits, citation style, and referencing conventions. Failure to comply with these guidelines may lead to rejection even if your research is sound. Adopt the ORCHID or IMRAD structure.

Write a compelling Introduction: The introduction should succinctly state the research problem, provide relevant background information, and outline the purpose of the study. The clinical deficit or data deficit should be what your research should try to fill in the gaps so as to speak.

Methodology and data analysis: Describe your study design, participant selection criteria, and data collection methods in detail. Provide sufficient information to enable replication of your study. Clearly outline the statistical analyses used and present the results objectively, without interpretation. The more powerful your statistical tools are and more graphical representation your tools give higher a chance of your paper getting accepted.

Results and Discussion: Present your findings in a logical and structured manner. Use tables, graphs, and figures to enhance clarity. Discuss the results in the context of existing literature and address any discrepancies or limitations. Highlight the implications of your findings and suggest future research directions.

Abstract and Conclusion: Write a concise and informative abstract that summarizes the key aspects of your study, including the research question, methods, results, and conclusion. The abstract should captivate readers and entice them to read the full manuscript. In the conclusion section, restate the main findings, discuss their implications, and emphasize their potential impact on clinical practice.

Language & Style: Ensure your manuscript is written in clear, concise, and grammatically correct language. Use active voice and avoid jargon and excessive technical terms that may hinder comprehension. Proofread your manuscript multiple times to eliminate errors and improve readability.

Collaboration and Peer Review: Collaborate with colleagues and seek their input during the writing process. Engage in peer review by sharing your manuscript with trusted colleagues or submitting it to pre-publication peer review platforms. Incorporate constructive feedback to enhance the quality and clarity of your manuscript. Seeking unbiased opinions of expert's colleagues before submitting to the journal may remove a lot of unexpected kinks in the publication. Don't review the literature extensively. Don't quote too many references.

Ethical Considerations: Address ethical considerations, such as informed consent, approval from relevant ethical committees, and conflicts of interest. Clearly state any funding sources and disclose any potential conflicts of interest.

Revise and Polish: Revision is an integral part of manuscript writing. Review your manuscript meticulously, checking for logical flow, coherence, and consistency. Pay attention to the clarity of your arguments and ensure that your conclusions are well-supported by the evidence.

Conclusion: Writing a research manuscript requires careful planning, organization, and attention to detail. By following these guidelines, doctors can effectively communicate their research findings, contribute to medical knowledge, and enhance the credibility of their work. Remember that writing is an iterative process, so be open to feedback and continuously refine your manuscript until it reaches its full potential. Conclusions and recommendations should not go beyond the scope of your research. It always helps to show the limitations of your research honestly and suggest pathways for future research for future generations.

Insights on C-Peptide in Diabetes

Author: Dr.Anuj Maheshwari, MD, FACP, FRCP(London, Edinburgh), Professor in Internal Medicine,Hind Institute of Medical Sciences, Barabanki, Lucknow, Uttar Pradesh, India

The assessment of beta-cell function is crucial in understanding and managing diabetes, a complex metabolic disorder. Among the various biomarkers available, C-peptide measurement has gained recognition as a valuable tool in clinical practice. Unlike insulin, C-peptide is not metabolized by the liver and is secreted in equimolar amounts. It provides a reliable reflection of endogenous insulin secretion and is unaffected by exogenous insulin therapy. This article explores the clinical importance of C-peptide measurement in different types of diabetes and its potential implications in disease classification, risk assessment for complications, and treatment decision-making.However, the utilization of C-peptide as a clinical biomarker in type 2 diabetes, where insulin resistance complicates the pathophysiology, has been limited by a lack of robust evidence. Additionally, the lack of standardization in C-peptide measurement across different laboratories poses challenges in result interpretation and comparability. Efforts to standardize C-peptide measurement have been initiated, including the establishment of reference methods and materials. However, further progress is needed, and collaboration with organizations such as the ADA and EASD is crucial to promote widespread standardization.The article discusses the interpretation of C-peptide test results, including reference ranges for fasting levels, as well as its significance in diagnosing and managing different diabetes types. In type 1 diabetes, C-peptide levels are consistently low due to beta-cell loss, while in late-onset diabetes, gradual reduction of C-peptide levels may not always indicate severe insulin deficiency. In type 2 diabetes, C-peptide measurement provides insights into beta-cell dysfunction and insulin resistance. It has also shown promise in distinguishing maturity onset diabetes of the young (MODY) from other types of diabetes and assessing the risk of gestational diabetes in pregnant women.

Furthermore, C-peptide has been studied as a potential biomarker for diabetes complications. Preserved C-peptide levels in type 1 diabetes are associated with better outcomes and reduced risk of retinopathy and nephropathy. However, the relationship between C-peptide and macrovascular complications remains controversial in both type 1 and type 2 diabetes. Higher C-peptide levels in type 2 diabetes have been linked to cardiovascular events and increased mortality. The article highlights the challenges in interpreting C-peptide levels in type 2 diabetes due to the presence of insulin resistance and calls for further research to explore the potential direct effects of C-peptide on inflammatory and vascular cells involved in complications.

In conclusion, C-peptide measurement holds potential value in diabetes management due to its cost-effectiveness and accuracy. However, challenges in standardization, result interpretation, and its utility in predicting type 1 diabetes and managing type 2 diabetes limit its widespread use. Further research, including randomized trials, is needed to address these uncertainties and determine how C-peptide measurement can be utilized to personalize treatment responses and improve patient outcomes.

Prediabetes & CV Risk

Author: Prof Apurba Mukherjee MD (General Medicine) FICP

Affiliation: Senior Diabetologist, Formerly Professor, General Medicine, R G KAR Medical Colllege& Hospital, Kolkata

Prediabetes is characterized by blood glucose levels above normal but below the diabetes threshold. It is considered a risk state for the development of type 2 diabetes, with approximately one-third of individuals with impaired glucose tolerance (IGT) progressing to type 2 diabetes. The annual incidence rate of prediabetes varies between 2-22% per year, depending on the population and the presence of additional risk factors. The American Diabetes Association (ADA) introduced the use of HbA1c levels between 5.7% and 6.4% as a new category of high diabetes risk, labeling individuals within this range as having prediabetes. However, controversies exist regarding the definition of prediabetes, with the International Diabetes Federation (IDF) and World Health Organization (WHO) not including HbA1c values in their criteria.

Controversies in Defining Prediabetes:

The disagreement among different organizations regarding the definition of prediabetes has led to ongoing debates. While the ADA considers HbA1c levels between 5.7% and 6.4% as indicative of prediabetes, the IDF and WHO focus primarily on impaired fasting glucose (IFG) and impaired glucose tolerance (IGT) criteria. The International Expert Committee (IEC) has recognized HbA1c levels between 6% and 6.4% as an indicator of prediabetes. The inclusion or exclusion of HbA1c values as part of the prediabetes range has significant implications for identifying individuals at risk and implementing preventive strategies.

Unexplained Cardiovascular Risk in Prediabetes:

Prediabetes, regardless of the definition used, has been positively associated with cardiovascular (CV) mortality and multiple CV outcomes, including coronary heart disease (CHD), stroke, heart failure, and atrial fibrillation. Several studies, including a recent comprehensive meta-analysis conducted by Cai et al. in 2020, have demonstrated an increased risk of all-cause mortality and CV diseases in individuals with prediabetes. The meta-analysis, comprising 129 studies with over 10 million participants, provided valuable insights into the relationship between prediabetes and CV outcomes.

The comprehensive meta-analysis revealed three major findings. Firstly, compared with individuals with normoglycemia, those with prediabetes had a significantly higher risk of all-cause mortality and CV diseases, both in the general population and in patients with atherosclerotic cardiovascular disease (ASCVD). Secondly, among the general population, IGT was associated with a greater risk of all-cause mortality, CHD, and stroke when compared to IFG. Lastly, the risk of all-cause mortality associated with IFG was primarily observed in individuals with fasting plasma glucose values between 100-125 mg/dl. The identification and appropriate management of prediabetes hold the potential for primary and secondary prevention of cardiovascular disease. However, controversies surrounding the definition of prediabetes persist, necessitating further research to reconcile the different criteria proposed by various organizations. Additionally, it is important to acknowledge that not all individuals with prediabetes progress to type 2 diabetes, prompting the consideration of alternative terms such as "intermediate hyperglycemia" or "impaired glucose regulation." Future studies should focus on addressing confounding factors related to disease progression and assessing the efficacy of lifestyle modifications during the prediabetes stage.

Further research is warranted to investigate potential confounding factors related to disease progression, such as genetic factors, ethnicity, family history, obesity, polycystic ovary syndrome (PCOS), and sedentary lifestyle. Moreover, the impact of lifestyle modifications at the prediabetes stage on reducing disease progression requires more comprehensive evaluation. By addressing these limitations and controversies, future studies can enhance our understanding of prediabetes, its association with cardiovascular risk, and the potential benefits of early intervention and preventive strategies.

Vitamin D level with Glycemic Status in Patients of Type 2 Diabetes Mellitus

Author: Dr. ARINDAM SUR, MBBS, MD, CCEBDM; Designation: Assistant Professor, R G Kar Medical College & Hospital

In 2010, an estimated 25.8 million people (8.3%) in the United States had diabetes mellitus, of which approximately 1 million have type 1 diabetes and most of the rest have type 2 diabetes. A third group that was designated as “other specific types” by the American Diabetes Association (ADA) number only in the thousands. Among these are the rare monogenic defects of either B cell function or of insulin action, primary diseases of the exocrine and medication-induced diabetes .Out of these three types, the number of type 2 diabetes mellitus cases is increasing day to day by leaps and bounds. The main cause of this increased incidence is increased incidence of obesity. Though by changing environmental factors, we can counter obesity, but still we need to look for other factors for preventing diabetes. One of these factors is vitamin D. This vitamin is also known as sunshine vitamin as sun is the main primary source. The main marker of vitamin D status is 25-hydroxy cholecalciferol , synthesized in liver .The epidemiology of vitamin D status is inverse to diabetes, since level of 25-hydroxy cholecalciferol declines with age and in obese persons.

Vitamin D receptors have been found in pancreatic beta cells, which additionally have been found to express the enzyme 1- α –hydroxylase ,an enzyme that is usually present in kidney activating vitamin D leading to the production of its biologically active form. Vitamin D facilitates the secretion of insulin from pancreatic beta cells, thus appearing to regulate insulin secretion.

Vitamin D contributes to normalization of extracellular calcium , ensuring normal calcium flux through cell membranes and adequate Ca2+ ion pool. Therefore vitamin D deficiency may be related to impaired insulin secretion in type 2 diabetes mellitus. In addition, as vitamin D stimulates the expression of the insulin receptor, vitamin D deficiency may be related with insulin resistance.

Vitamin D supplementation can therefore be given to patients with type 2 diabetes mellitus to achieve good glycemic control .But this also has shown conflicting results. In some studies vitamin D supplementation was found to improve glucose control in type 2diabetes mellitus , while in others no such effect was observed.Vitamin D deficiency appears to be widespread and associated with ethnicity and economic status. Geography is the key to virtually all national statistics. It provides a structure for collecting, processing , storing and aggregating data. Linking geographic data to laboratory data allows analysis of the association of laboratory data with economic indicators. Accumulating research suggests that circulating concentrations of Vitamin D may be inversely related to prevalence of diabetes, plasma concentration of glucose, insulin resistance. It has also been shown that Vitamin D replenishment improves glycemic status and insulin secretion in patients with Type 2 DM with established Hypovitaminoses D.

SGLT2 Inhibitors and GLP 1 RA in CV Disease

Author: Dr. Arun Kumar Kedia, Consultant Physician & Diabetologist, Raipur

Cardiovascular disease is a common cause of morbidity and mortality for patients with type 2 diabetes (T2D). A plethora of therapeutic agents targeting traditional risk factors reduces cardiovascular risk in patients with T2D. But Glucose lowering agents causing a reduction in CV risk were unknown till we had major studies evaluating sodium glucose cotransporter-2 inhibitors (SGLT-2i) and glucagon-like peptide-1 receptor agonists (GLP-1RA) since 2015.

The first outcomes trials evaluating the cardiovascular effects of novel glucose-lowering therapies in patients with T2D to show significant reductions in cardiovascular events were EMPA-REG, which evaluated the SGLT-2i empagliflozin, followed by the LEADER trial, which evaluated the GLP1-RA liraglutide. Not only did each agent reduce the risk for the primary composite outcome of cardiovascular death/myocardial infarction/stroke, but each also demonstrated a significant reduction for cardiovascular and all-cause death.

Whereas subsequent trials have revealed some heterogeneity in the estimated magnitude of effect on atherosclerotic cardiovascular events across the SGLT-2i class, the outcome trials of empagliflozin, canagliflozin, dapagliflozin, and ertugliflozin support a consistent effect of SGLT-2i on reducing hospitalization for heart failure.

In contrast, the GLP-1RA trials that followed the LEADER trial showed marked heterogeneity in cardiovascular efficacy, potentially explained by variation in each agent's structural homology, pharmacology, adherence to protocol, and the studied population. Outcomes trials evaluating the GLP1-RAs, albiglutide, dulaglutide, and semaglutide demonstrated significant reductions in atherosclerotic events, with meta-analyses revealing favorable but relatively modest effects on heart failure hospitalizations. Trials of extended-release exenatide and lixisenatide, however, showed cardiovascular safety without significant cardiovascular benefit.

Society consensus statements and guidelineshave subsequently integrated both GLP-1RA and SGLT2i under the umbrella term of “glucose-lowering drugs with cardiovascular benefit” and recommended their use in patients with T2D at high cardiovascular risk. Yet despite proven efficacy, professional society guideline endorsement, and regulatory labels for cardiovascular benefit, these medicines remain profoundly underused in clinical practice esp the GLP1RA due to their high costs. The initial approval of SGLT-2i and GLP-1RA as glucose-lowering drugs for T2D has likely projected them essentially for endocrinologists, but the cardiovascular benefits observed should accelerate their adoption by cardiologists, who tend to consider glycemic control and HbA1c targets as outside their purview. Rather, SGLT-2i and GLP-1RA ought to be considered cardiovascular risk-reducing agents with the added benefit of lowering glucose.

Polycystic ovarian syndrome (PCOS)

Author: Dr Arjun Baidya, MD DM, Endocrinologist, NRS Medical College & Hospital, Kolkata

Polycystic ovarian syndrome (PCOS) is a complex metabolic disorder characterised by chronic anovulation, hyperandrogenism and polycystic ovaries. This disorder is associated with many other comorbidities like obesity, hyperinsulinemia and increased risk of cardiovascular complications. It is also associated with increased risk of endometrial carcinoma. PCOS should be considered in any adolescent female presenting with hirsutism, treatment resistant acne, oligomenorrhoea and infertility. The cause of PCOS is unknown. Considerable evidences suggest that it arises as a complex trait with contribution from both heritable and nonheritable factors. The functional ovarian hyperandrogenism is major source of androgen excess and account for classical features of this syndrome. The ovarian dysfunction appears to be intrinsic to ovaries and characterised by abnormal ovarian steroidogenesis and folliculogenesis leading to androgen excess.

Treatment focuses on reducing hyperandrogenism symptoms, restoring menstrual regularity, and achieving conception. In treating infertility caused by polycystic ovarian syndrome, letrozole (an aromatase inhibitor) appears to be more successful than clomiphene citrate (an anti-estrogen and a reference infertility drug). When provided by a multidisciplinary team, it can help patients maintain appropriate lifestyle changes, such as reducing body fat, increasing metabolism, and enhancing reproductive health. Compound oral contraceptives are the most common kind of androgen inhibitor and are the preferred therapy for menstrual disruption in PCOS patients who do not want to get pregnant. Weight loss should be prioritized for women with PCOS since a healthy; balanced diet combined with regular exercise can boost metabolism, increase insulin sensitivity, and aid weight loss safely. This will improve their physical health. Other than reproductive symptoms, PCOS symptoms include insulin resistance (IR), metabolic syndrome (MS), and chronic low-grade inflammation.

Role of Circadian Rhythm and Longevity

Author: Dr. Ashutosh Mishra 1 .MD ,Dr. Pallavi mishra.MD,2 Pratima Singh, m.sc 3

Affiliation: PIIRE Varanasi

The circadian rhythm plays a vital role in promoting longevity and overall health. Disruptions in the circadian rhythm are associated with age-related diseases such as cancer, cardiovascular disease, and metabolic disorders. Adequate and regular sleep, influenced by the circadian rhythm, is crucial for maintaining good health and reducing the risk of chronic diseases and premature aging. Resetting the circadian clock has been shown to improve well-being and increase lifespan, while clock disruption is linked to aging and morbidity.

The cardiovascular system and circadian rhythms are closely connected to longevity. Proper circadian rhythms promote health and longevity, while disrupted rhythms are associated with age-related diseases such as cardiovascular diseases. The circadian rhythm regulates various physiological processes, including metabolism, immune function, and hormone production, which can impact lifespan. Sleep quality and regularity, influenced by the circadian rhythm, are important for overall health and are linked to a decreased risk of chronic diseases and premature aging.

Circadian Rhythms-:

Circadian rhythms are controlled by the hypothalamus and synchronize the body's biological processes over a 24-hour cycle. These rhythms are closely tied to sleep patterns, appetite, body temperature, and other functions. While primarily internal, circadian rhythms also respond to light. Light exposure triggers activity in the supra charismatic nucleus (SCN) of the hypothalamus, informing the body that it is daytime and adjusting the circadian rhythms accordingly.

Importance of Circadian Timing for Aging and Longevity-:

Circadian rhythms play an important role in aging and longevity. A properly functioning circadian rhythm has been linked to longevity and overall health. The circadian rhythm helps to regulate many physiological processes, including metabolism, immune function, and hormone production, all of which can influence lifespan. One way in which the circadian rhythm affects longevity is through its influence on sleep. Adequate and regular sleep is important for overall health and has been linked to a reduced risk of chronic diseases and premature aging. Resetting the circadian clock leads to well-being and increased lifespan, whereas clock disruption is associated with aging and morbidity . Proper circadian rhythmic improves longevity. For instance, transplantation of fetal SCN into aged animals increases rhythmic and extends lifespan. Conversely, genetic perturbation of circadian genes in peripheral tissues in rodents is associated with metabolic disorders.

Relationship between Circadian Rhythm and Metabolic Health

The relationship between circadian rhythm and metabolic health is significant. Circadian rhythms play a crucial role in metabolic processes such as glucose homeostasis, hormone secretion, cardiovascular health, and body temperature regulation. Disrupted circadian rhythms are strongly associated with metabolic disorders like obesity, diabetes, and the metabolic syndrome. On the other hand, proper circadian rhythmic improves metabolic health and longevity.

Circadian Rhythms, Aging, and Life Span in Mammal

In mammals, circadian rhythms are the 24-hour cycles that regulate behavior and physiology. Resetting the circadian clock has been found to improve well-being and increase lifespan, while clock disruption is linked to aging and morbidity. Circadian rhythms allow organisms to synchronize internal processes with environmental timing cues, ensuring optimal adaptation. Higher amplitude circadian rhythms are associated with better well-being and increased lifespan in animal models, regardless of food composition. Aging often leads to decreased amplitude and a shift in phase of circadian rhythms, impairing an organism's ability to predict and adapt to environmental changes. Feeding regimens that reset circadian rhythms may lead to improved health, increased longevity, and better synchrony in metabolism and physiology.

Management of Youth with Obesity & Type 1 Diabetes

Author: Ashish S.Dengra Director Mahi Diabetes Thyroid Care Research Centre, Jabalpur

There has been an alarming increase in the prevalence of obesity in people with type 1 diabetes in recent years.

Although obesity has long been recognized as a major risk factor for the development of type 2 diabetes and a catalyst for complications,much less is known about the role of obesity in the initiation and pathogenesis of type 1 diabetes. Emerging evidence suggests that obesity contributes to insulin resistance, dyslipidemia, and cardiometabolic complications in type 1 diabetes.Unique therapeutic strategies may be required to address these comorbidities within the context of intensive insulin therapy, which promotes weight

gain.There is an urgent need for clinical guidelines for the prevention and management of obesity in type 1 diabetes.

The development of these recommendations will require a transdisciplinary research strategy addressing metabolism, molecular mechanisms, lifestyle, neuropsychology, and novel therapeutics. In this review, the prevalence, clinical impact, energy balance physiology, and potential mechanisms of obesity in type 1 diabetes are described, with a special focus on the substantial gaps in knowledge in this field.

Our goal is to provide a framework for the evidence base needed to develop type 1 diabetes–specific weight management recommendations that account for the competing outcomes of glycemic control and weight management.

Travel and Internist

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Traveling can be an exciting and enriching experience, but it's essential to prioritize your health and take necessary precautions, especially when visiting new places. When planning your trip, it's crucial to consider your health needs and ensure that you have access to medical care if required. Here, we will discuss the importance of taking precautions while traveling, the role of an internist in diagnosis and treatment and essential considerations for a safe journey.

PRECAUTION

Before embarking on your journey, it's advisable to research the health risks associated with your destination. This includes understanding prevalent diseases, local healthcare facilities and any necessary vaccinations. Consult with a travel medicine specialist on your internist to receive personalized recommendations based on your medical history and the specific location you plan to visit.

DIAGNOSIS

If you experience any health concerns during your travels, an internist can play a crucial role in diagnosing your condition. Internists are trained to evaluate a wide range of medical issues, including infectious diseases, respiratory problems, gastrointestinal disorders and cardiovascular conditions. They will conduct a thorough medical history review, physical examination and order diagnostic tests a necessary to identify the underlying cause of your symptoms.

TRAETMENT

Once a diagnosis is made, the internist will develop an appropriate treatment plan tailored to your needs. This may involve prescribing medications, providing medical advice or referring you to a specialist if required. It's essential to follow the prescribed treatment regimen and maintain open communication with your internist, especially if you experience any side effects or changes in your symptoms.

PREVENTIVE MEASURES

To reduce the risk of contracting illnesses during travels, it's crucial to practice preventive measures. This includes: -

Vaccinations: - stay up to date with routine vaccinations and consider additional vaccines based on your travel destination. Common example includes Hepatitis A and B, typhoid, tetanus and influenza.

Hygiene: - wash your hands frequently with soap and water, especially before meals and after using the restroom. If soap and water are unavailable, use hand sanitizers containing at least 60% alcohol.

Safe food and water: - Consuming only well- cooked food and drink bottled water or water that has been properly treated. Avoid street food, raw or undercooked meats and unpeeled fruits and vegetables.

Insect protection: - protect yourself from insect bites by wearing long sleeves, using insect repellents and sleeping under bed nets if necessary. This helps prevent mosquito- borne illnesses like malaria, dengue and Zika virus.

Stay active and hydrated: - maintain a healthy lifestyle by engaging in regular physical activity and staying hydrated. This helps boost your immune system and overall well- being.

Travel insurance: - obtain comprehensive travel insurance that covers medical expenses, including emergency evacuation if needed. This provides financial security and peace of mind during your trip.

Remember, it's crucial to consult with your internist or a travel medicine specialist well in advance of your trip to ensure you have ample time for vaccinations, medical evaluations and to address any specific concerns.

In conclusion, by taking proper precautions, seeking timely medical diagnosis and treatment and adhering to prevent measures, you can significantly reduce health risks while traveling. Prioritizing your well- being allows you to make the most of your journey and create unforgettable memories.

Diabetic Foot Ulcer: Role of Pressure Offloading

Author: Dr Basab Ghosh, Diabetologist, Tripura

Diabetic foot ulcer (DFU) is the most dreaded complication of diabetes mellitus. One – third of diabetic people are at risk of foot ulceration because of peripheral neuropathy and vascular disease, and one in six will develop ulcer. DFUs are primarily due to neuropathy and / or ischemia due to peripheral arterial disease, and are frequently complicated by infection. Diabetic foot infection is a common cause for hospital admission among diabetic patients in India. This could be attributed to several socio cultural practices such as barefoot walking, inadequate facilities for diabetes care and education and poor socio economic condition leading to negligence of minor health problems. There is basic need for proper routine foot examination in all diabetic patients on a regular basis. This is particularly important in developing countries such as India where socio-cultural practices have a predisposing role in causation of foot infections. Strategies such as intensive management and foot care education are helpful in preventing newer problems and surgery in diabetic foot disease. Peripheral neuropathy affects around half of all people with diabetes and leads to loss of protective sensation in the feet. Elevated levels of mechanical stress in the presence of loss of protective sensation are one of the most common causes of DFU.

Mechanical stress is composed of plantar pressures and shear accumulated during repetitive cycles of weight-bearing activity. In people with neuropathic DFUs, multiple interventions are typically required to effectively heal a DFU, including local wound management, infection management, revascularization, and pressure offloading. Pressure offloading is arguably the most important of these interventions. The first three of those interventions are covered by the surgical team; however knowledge of pressure offloading is very important for the diabetologists or the clinicians` practicing diabetes to contribute to better patient care. Offloading is defined as any measure to eliminate abnormal pressure points to promote healing or recurrence of DFUs. Research on reduction of plantar pressures with the therapeutic footwear clearly highlights the benefit of using soft, shock-absorbing insole materials and correctly designed footwear in diabetic patients, particularly those with high-risk feet. The materials and styling of footwear are clearly able to reduce the pressure on high-pressure regions. A coordinated team approach has shown to decrease the frequency of limb loss in diabetics and a multidisciplinary team (MDT) should comprise diabetes care specialist interested in diabetic foot, podiatrist, trained nurses, general surgeon/ orthopedic surgeon, vascular surgeon, infectious specialist, orthotists, psychologist, etc. Educating patient and the family members alongside the educated health care providers is the key of the success.

KEYWORDS: Diabetes, Diabetic foot ulcer, DFU, Peripheral Neuropathy, Peripheral vascular disease, Plantar pressure, Offloading, Footwear.

Artificial Intelligence in Diabetes Mellitus : Enhancing Management and Treatment

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Introduction:

Artificial intelligence (AI) is revolutionizing the field of healthcare, including the management and treatment of diabetes mellitus. With its ability to analyze vast amounts of data and generate actionable insights, AI is empowering healthcare professionals to make more accurate diagnoses, personalize treatment plans, and improve patient outcomes.

Early Detection and Diagnosis:

AI algorithms can analyze patient data such as medical history, laboratory results, and lifestyle factors to identify individuals at high risk of developing diabetes. By detecting early signs and risk factors, AI can enable timely intervention, thereby preventing or delaying the onset of the disease. Moreover, AI-powered diagnostic tools can accurately identify diabetes subtypes and aid in distinguishing between type 1 and type 2 diabetes, ensuring appropriate treatment approaches.

Personalized Treatment and Management:

The variability in diabetes management necessitates personalized treatment plans. AI can assist healthcare providers in tailoring treatment regimens to individual patients. By analyzing real-time data from continuous glucose monitoring devices and integrating it with other health metrics, AI algorithms can optimize insulin dosing, predict blood sugar fluctuations, and provide personalized dietary recommendations. This not only enhances glycemic control but also reduces the risk of complications.

Decision Support Systems:

AI-powered decision support systems can augment healthcare professionals' decision-making capabilities by providing evidence-based treatment recommendations. By integrating patient data, clinical guidelines, and scientific literature, these systems offer personalized treatment suggestions, alert providers to potential medication interactions, and support therapeutic adjustments. This helps healthcare professionals in delivering high-quality care while considering individual patient needs and preferences.

Remote Monitoring and Support:

Telemedicine combined with AI technologies enables remote monitoring of patients with diabetes. Connected devices and mobile applications can collect data on blood glucose levels, physical activity, and medication adherence, allowing healthcare providers to remotely monitor patients' progress and intervene promptly when necessary. AI algorithms can analyze this data in real-time, alerting healthcare providers to deviations from normal values and helping identify patterns that may indicate the need for treatment adjustments or lifestyle modifications.

Conclusion: Artificial intelligence has the potential to transform the management and treatment of diabetes mellitus. By leveraging AI algorithms, healthcare providers can enhance early detection, personalize treatment plans, and improve patient outcomes. As AI continues to advance, its integration with diabetes care promises to further empower both patients and healthcare professionals in the fight against this chronic condition

Home blood pressure monitoring (HBPM)

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Home blood pressure monitoring (HBPM) is now recognised as an important tool in the management of hypertension and managing complications as a result of it.

Individuals can measure their blood pressure in the comfort of their own homes, providing valuable information for healthcare professionals to make informed decisions regarding treatment and monitoring. Important factors will should always be considered:

1. Accuracy and Validation: Recent studies have focused on the accuracy and validation of home blood pressure monitoring devices. Standardization and calibration protocols have been developed to ensure that these devices provide reliable measurements.

2. Wireless and Bluetooth Connectivity: These features allows for seamless data transfer to smartphones, tablets, or dedicated apps, enabling individuals to track their blood pressure trends over time. Some devices can even transmit data directly to healthcare providers, facilitating remote monitoring and telemedicine.

3. Smartphone Applications: Numerous smartphone applications have been developed to complement home blood pressure monitoring. These apps often offer features such as data visualization, personalized health insights, medication reminders, and the ability to share data with healthcare professionals. They can enhance patient engagement and provide valuable feedback for better blood pressure management.

4. Multiple Readings and Averaging: Taking multiple readings and averaging them over time has been shown to improve the accuracy of blood pressure measurements.

5. Irregular Heartbeat Detection: Recent another feature added to the home blood pressure monitors have the ability to detect irregular heartbeats (arrhythmias) while measuring blood pressure this alerts individuals to potential cardiac rhythm abnormalities and prompts them to seek medical attention when necessary.

6. Integration with Health Tracking Devices is another added feature with some Home blood pressure monitors. They can now integrate with other health tracking devices, such as fitness trackers and smartwatches.

7. Artificial Intelligence and Machine Learning: Advancements in AI have the potential to improve home blood pressure monitoring.

8. Remote Monitoring and Telehealth: Home blood pressure monitoring plays a crucial role in remote monitoring and telehealth services. This was realised by HCPs during the recent pandemic as we adopted telemedicine as an important way to reach out to patients.

It is important to note that while home blood pressure monitoring is a valuable tool, it should not replace regular visits to healthcare professionals. It is essential to consult with a healthcare provider for proper interpretation of blood pressure measurements and guidance on treatment plans.

Overall, home blood pressure monitoring continues to evolve with technological advancements, enabling individuals to actively participate in the management of their blood pressure and contributing to more personalized and effective healthcare interventions.

Dual Incretin

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Incretin hormones are discovered during trials to identify the phenomenon that has been called the " Incretin Effects" La Berre (1930s) use the term incretin to describe the GUT activity the stimulated pancreatic endocrine secretion. Incretins (GLP-1 and GIP) are secreted within minutes after meal ingestions in response to activation of neural circuits that connect the GI tract with the hypothalamus In order to manage type 2 diabetes mellitus (T2DM), glucagonlike peptide 1 (GLP-1) based therapy is a well-established treatment option. It is

suggested early in the treatment protocol since it has excellent cardiovascular

outcomes, weight loss, and glycaemic efficacy. On the other hand, glucosedependent insulinotropic polypeptide (GIP) was believed to have no potential as a glucose-lowering medication according to observations demonstrating no insulinotropic effect from supraphysiological infusion in individuals with T2DM. Emerging research has shown that, in contrast to administering each hormone separately, co-infusion of GLP-1 and GIP has a synergistic impact. Tirzepatide (dual GIP/GLP-1 receptor agonist) has been shown to effectively lower blood sugar and cause weight reduction in phase 1 and 2 clinical studies,

with side effects that are equivalent to those of known GLP-1 receptor agonists.

IMPACT OF SHORT TERM AND LONG TERM GLYCEMIC CONTROL ON CV RISK IN PATIENTS WITH TYPE 1 DM

Dheeraj Kapoor (MD,DM)

Diksha Goyal (DNB (Med)

Type 1 DM is associated with a two to three fold higher mortality than general population. Premature atherosclerosis is the main reason for precipitating these cardiac issues a decade earlier resulting in mortality. This article explores the impact of glycaemic control on cardiovascular health in Type 1 Diabetics, considering both short term and long term effects.

The prevalence of diagnosed Type 1DM among the US adults in 2016--2017 was 0.5% and is increasing worldwide. Regionally, the age-adjusted prevalence of DM stands at 3.8% in Africa, 7.3% in Europe, 11.5% in North America and Caribbean, 9.6% in South and Central America, 9.1% in Southeast Asia, and 8.8% in the Western Pacific. China, India, and the USA remain the top three countries with the largest number of people with DM.

Short term glycemic control refers to management of blood glucose levels on day to day basis. It involves monitoring and adjusting insulin doses, dietary choices and physical activity to maintain blood glucose in target range. Several studies have highlighted the impact of short term glycemic control on cardiovascular risks in Type 1 Diabetics. Poor glycemic control characterized by frequent episodes of hyperglycemia and hypoglycemia can contribute to acute cardiovascular complications such as arrhythmias, myocardial ischaemia and sudden death. Fluctuations in blood glucose levels can cause endothelial dysfunction, oxidative stress, inflammation and platelet activation all which contribute to the development of atherosclerosis and subsequent cardiovascular events.

Long term glycemic control is assessed by Hba1c levels(Glycated Haemoglobin levels).Studies have consistently demonstrated a strong association between long term hyperglycemia and an increased risk of macrovascular complications such as coronary artery disease, peripheral arterial disease and stroke. Prolonged exposure to high blood glucose leads to endothelial dysfunction, increased oxidative stress, advanced glycation end products (AGEs) formation, and inflammation all of which contribute to atherosclerosis and cardiovascular damage. Furthermore, persistent hyperglycemia can promote the development of dyslipidemia and hypertension which are important cardiovascular risk factors.

In San Antonio Heart Study, 4875 patients were followed up for 7–8 years, The risk of heart failure increased by 40% in the presence of DM in comparison to normal population.

Many cardiovascular risk assessment engines have been developed in view of defining the risk of the same in Type 1 Diabetes. The Steno T1 Risk Engine is a risk calculator (engine) in patients with type 1 diabetes for predicting their five- and 10-year risk of non-fatal and fatal cardiovascular disease (Ischemic heart disease, Stroke, Peripheral vascular disease).Similar scores on these lines include UKPDS and QRISK.

The DCCT/EDIC Research Group has established the following: Intensive therapy aimed at achieving glycemic levels as close to the non-diabetic range as safely as possible reduces the development and progression of all diabetes-specific complications by as much as 76%. Intensive therapy reduces measures of atherosclerosis over time, and probably reduces CVD events as well. Intensive intervention is most effective when implemented early in the course of diabetes; if intensive intervention is delayed, the momentum of complications is harder to slow, as shown by the results of the secondary intervention group.

A multifactorial approach is needed for reduction in diabetes complications. Antihyperglycaemics, antihypertensives and antidyslipidemic agents with cardiovascular and renal benefitsshould be initiated early as per recommended guidelines. Concomitant testing in paediatric population of Type 1 DM should involve evaluation for thyroid disorders, celiac disease, hypertension and dyslipidemia at the time of diagnosis. Nephropathy, retinopathy and neuropathy to be first tested at puberty.

The positive role of SGLT 2 Inhibitors has been delineated in recent literature of its cardioprotective nature by increasing glycosuria, uricosuria, diuresis and natriuresis.

To conclude, glycaemic control plays a crucial role in influencing cardiovascular risk in individuals with type 1 diabetes. Achieving and maintaining tight glycemic control through appropriate insulin therapy, self management education and lifestyle modification is paramount in reducing the burden of cardiovascular disease in population.

Deintensification of Diabetes treatment in Elderly

Dr (Prof.) Jugal Kishor Sharma, MD, D.Sc. (Honoris Causa), FACE, FRCP, FACP

Antidiabetic treatment can delay long term complications of type 2 diabetes. However, in some patients -- in particular older patients with multimorbidity or those who are frail—the benefits of tight glycaemic control decline and the risks and burdens of antidiabetic treatment increase. Observational studies of people with type 2 diabetes who are older or have high clinical complexity have found an association between tight blood glucose control (hemoglobin A1c (HbA1c) of <7% (53 mmol/mol)) and higher risk of falls, severe hypoglycemia, emergency department visits, hospitalizations, and death. Although these risks are well known, there is little advice for clinicians on how and when to discuss deintensifying diabetes care, in contrast to the wealth of guidance on escalating treatment.

Deintensifying type 2 diabetes care includes deprescribing and reducing diabetes-specific assessments that no longer improve quality of life of older adults. Based on patient health status and type 2 diabetes control, consider discussing deintensification as part of routine care. Patient preferences and values to determine goals of care are to be considered.

To individualise care, use a patient centered approach with shared decision making so that care decisions are responsive to individual patients' preferences, needs, and values. Agree on an action plan with the patient; using neutral language, explain the potential benefits and harms of each option and that deintensification is intended to reduce patient harm resulting from excessive treatment and monitoring. Be open about your own concerns (for example, "Given your health problems, I am worried that you are at increased risk of side effects from antidiabetics"). Describing deintensification as a part of providing good care can help avoid it being misconstrued as rationing or withholding treatment based on age, health status, or life expectancy.

Patient attitudes towards medications and preferences for involvement in decision making vary substantially—and language and consultation style need to be adapted accordingly. Decision aids and a typology classification of patients according to their attitudes towards medications and involvement in care may be useful for this purpose. Some patients may need more time than others to decide about modification (or not) of their care and to understand and process concepts that might not be familiar.

Follow-up after a decision whether to modify treatment should include the impact on diabetes-specific symptoms or control and how the patient feels about their decision. Decisions should be periodically revisited as patients' needs, values, and circumstances evolve.

Sleep & Diabetes: An Understated Bidirectional Link

Authors: Dr. Manohar KN, Dr. Reshma Abraham

"A good laugh and a long sleep are the best cures in the doctor's book."

Sleeping disorders and diabetes are two prevalent health conditions that affect millions of individuals worldwide. Recent studies have highlighted a complex relationship between these two entities. This article aims to explore this bidirectional link, shedding light on the impact which they have on each other and the potential mechanisms involved. The pathophysiology of Type 2 Diabetes had made distant journey from, Triumvirate to Ominous octet and most recently, the dirty dozen to the sweet 16 theories .In this article, the author reiterates the importance of sleep and acknowledges inception of poor sleep as a causative factor as one among the many pathogenetic factors of Type 2 Diabetes – May be the 17th !!

Sleeping disorders encompass a range of conditions; including insomnia, sleep apnea, restless leg syndrome, and narcolepsy. These disorders disrupt the normal sleep-wake cycle, leading to poor quality or insufficient sleep. Diabetes, by virtue of its association with glycaemic variability, nocturia, increased sympathetic activity, and neuropathy can disrupt sleep quality. Co-occurrence of obstructive sleep apnea and insomnia with diabetes and obesity is a well-known factor but needs reemphasis.

Insulin Resistance: Poor sleep quality has been associated with increased insulin resistance. Reduced sleep duration disturbs the hormonal balance, leading to alterations in insulin sensitivity and glucose metabolism.

Glucose Control: Diabetes, particularly when uncontrolled diabetes can affect sleep patterns. Fluctuating blood sugar levels, nocturia, and neuropathic pain can disrupt sleep continuity and quality, exacerbating sleeping disorders.

Obesity: Sleep deprivation affects appetite-regulating hormones, increasing cravings for high-calorie foods and impairing the body's ability to regulate energy intake. This, in turn, contributes to the vicious cycle of obesity leading to an increased risk of developing type 2 diabetes.

Sleep Apnea: Obstructive sleep apnea (OSA) is a common sleeping disorder characterized by recurrent pauses in breathing during sleep. OSA has been linked to an increased risk of developing type 2 diabetes due to intermittent hypoxia and sympathetic nervous system activation, which negatively impact glucose metabolism. In addition, chronic sleep fragmentation leads to poor sleep quality increased daytime somnolence, and lack of physical activity which further contributes to obesity and insulin resistance besides being a cause of resistant hypertension and increased cardiovascular risk.

Circadian Rhythm Disruption: Disruption of the body's internal biologic clock, can contribute to both sleeping disorders and diabetes. Shift work, irregular sleep schedules, increased screen time and exposure to artificial light at night can disrupt the circadian rhythm, leading to metabolic dysregulation and an increased risk of developing diabetes.

Screening and Awareness: Individuals with sleeping disorders should be screened for diabetes risk factors, and vice versa. Early identification and intervention can prevent or manage the development of both conditions.

Lifestyle Modifications & Weight Management: Adopting healthy sleep habits, such as maintaining a regular sleep schedule, creating a conducive sleep environment, and practicing relaxation techniques, can improve sleep quality. Addressing obesity through a combination of healthy eating, regular physical activity, and cognitive behavioural interventions can help reduce the risk of both sleeping disorders and diabetes.Treatment Approaches: Treating sleeping disorders by inculcating sleep hygiene, utilising Cognitive behavioural therapy, can improve sleep quality and indirectly contribute to better glycaemic control in individuals with diabetes. In all those affected with OSA, weight reduction and utilising continuous positive airway pressure (CPAP) for sleep apnea can smoothen the control the Blood Pressure and glycemia

Conclusion:Finally, the importance of sleep and its association with Diabetes has been grossly understated. By recognizing and managing these interconnected factors, individuals can improve their overall health and well-being while minimizing the risk of complications associated with both sleeping disorders and diabetes. We should reemphasise the importance of Sleep disturbance as an aetiopathogenic factor of type 2 diabetes, there by focussing on this entity and add on as the 17th factor beyond the “Sweet Sixteen.”

“Sleep Quality: Commonly Impaired, Uncommonly Assessed, Rarely Addressed!”

Precision medicine in T1DM

Author: Dr Mayur Agarwal

Precision medicine involves customizing medical treatment for an individual based on extensive biological and external data. Through advancements in molecular biology, gene sequencing and machine learning precision medicine utilizes this detailed information to improve clinical decision-making. Unlike traditional clinical approaches that rely on limited phenotypic data derived from history, physical examination, and laboratory tests, precision medicine relies on comprehensive profiling of a patient's genetic, morphological, and metabolic characteristics.

Pharmacogenetics investigates the impact of genetic variability on three aspects: (1) how genetic variation influences the way drugs are processed and how they interact with the body (pharmacokinetics and pharmacodynamics), (2) the effects of genetic variations in drug targets on treatment outcomes, and (3) the likelihood of experiencing adverse events related to medications.

Precision biologics refer to targeted therapeutic agents that are designed to address specific molecular pathways or components involved in the development or progression of the disease.As the costs of genetic, metabolomic, immunologic, and other advanced tests decrease and their availability increases in medical records, it is anticipated that precision medicine will become more commonly utilized in diabetes care.

Some of the important recent updates are -

1. Anti-CD3 monoclonal antibodies: Certain monoclonal antibodies, such as teplizumab and otelixizumab, target the CD3 receptor on T-cells, which are involved in the immune response. By modulating T-cell activity, these antibodies aim to prevent or slow down the destruction of insulin-producing beta cells in the pancreas. Teplizumab, marketed under the brand name Tzield, is approved by FDA to delay the onset of stage 3 type 1 diabetes in adults and pediatric patients 8 years and older.

2. Anti CD2 : In Inducing Remission in New-onset Type 1 Diabetes with Alefacept (T1DAL) trial , alefacept which targets the CD2 molecule on these T cells , preservation of C-peptide and metabolic stability was seen.

3. Anti–T-cell antibody : Study of Thymoglobulin to ARrest T1D (START) clinical trial showed no change in the regulatory-to-effector cell ratio and no preservation of C-peptide.

4. Anti-IL-1 antibodies: Antibodies target IL-1 receptors or IL-1 itself to reduce inflammation and potentially preserve beta cell function. But anakinra, canakinumab, gevokizumab, and rilonacept – showed no positive treatment effects on preserving pancreatic islet cell function and endogenous insulin production in patients with T1DM.

5. Anti-IL-21 antibodies: In a recent phase 2 trial combination of anti-IL-21 and liraglutide could preserve β-cell function in recently diagnosed type 1 diabetes.

6. Other immune-modulatory agents: Various other precision biologics are being explored to modulate specific immune cells or factors involved in Type 1 Diabetes, such as anti-CD25 antibodies targeting regulatory T-cells, Rituximab anti-CD20 monoclonal antibody, anti-CD40 antibodies inhibiting co-stimulation, Fc receptor non-binding anti-CD3 antibodies and anti-IL-6 antibodies affecting the inflammatory response.

It's worth mentioning that precision biologics for Type 1 Diabetes are still primarily in the experimental and clinical trial stages. While some therapies have shown promise in preserving beta cell function or delaying the progression of the disease, more research is needed to establish their long-term efficacy and safety profiles.

Alzheimer disease what you probably don't know, but you should

Author: Dr.M.MukhyapranaPrabhu

Alzheimer's disease (AD) (named after the German psychiatrist Alois Alzheimer)is the most common type of dementia affecting at least 55 million people worldwide and corresponding to 60 to 70% of all dementias cases. AD can be defined as a slowly progressive neurodegenerative disease characterized by 1) Neuritic (Senile) Plaques composed of nucleus of β-amyloid protein accumulation (Aβ42), as extra-cellular lesions and 2) Neurofibrillary tangles composed of phosphorylated tau protein (P-tau) Deposition of β-amyloid protein can also occur in capillaries walls, arteries and arterioles causing amyloid cerebral angiopathy leading to degeneration of vascular wall components and worsening of blood flow, besides predisposing to intraparenchymal haemorrhages .

AD typically manifests through a progressive loss of episodic memory and cognitive function, with later deficiency of language and visuospatial abilities. Memory and cognitive changes are often accompanied by behavioural disorders such as apathy, aggressiveness and depression. Subgroup of AD patients do not present a typically amnestic picture, manifesting as non-amnestic deficits from the onset of symptoms. Structural neuroimaging, with a pattern of hippocampal and parietal atrophy in typical cases reinforces the diagnosis. AD follows a progressive disease continuum that extends from an asymptomatic phase with biomarker evidence of AD (preclinical AD), through minor cognitive (mild cognitive impairment [MCI]) and/or neurobehavioral (mild behavioural impairment [MBI]) changes to, ultimately, AD dementia. A number of staging systems have been developed to categorize AD across this continuum. Early recognition of AD, differentiating it from other causes of dementia (frontal lobe, Lewi body, vascular and mixed dementias) needs detailed history and evaluation. Diagnosing and treating potentially reversible causes of dementia (vitamin B12 deficiency, hypothyroidism NPH, HIV disease) by investigations & imaging is essential

AD is considered as multifactorial disease associated with several risk factors such as older age, genetic factors, head injuries, diabetes, vascular diseases, infections, and environmental factors. The exact connection between Alzheimer's disease (AD) and type 2 diabetes is still in debate. However, uncontrolled hyperglycaemia may increase the risk of developing Alzheimer's. This relationship is so strong that some have called Alzheimer's “diabetes of the brain” or “type 3 diabetes (T3D)”.

The underlying cause of pathological changes in Alzheimer's disease (Aβ, NFTs, and synaptic loss) is still unknown. Several hypotheses were proposed as a cause for AD but two of them are believed to be the main cause: some believe that an impairment in the cholinergic function (Cholinergic hypothesis) is a critical risk factor for AD, while others suggest that alteration in amyloid β-protein production (amyloid hypothesis) and processing is the main initiating factor.

In 2011, The National Institute on Aging—Alzheimer's Association made several changes and updated the 1984 NINCDS-ADRDA criteria for higher specificity and sensitivity in the diagnosis of Alzheimer's disease. The newly proposed criteria include probable and possible AD dementia for the use in clinical settings and probable or possible AD dementia with pathophysiological evidence for research purposes, in addition to clinical biomarkers. There are two categories of Alzheimer's disease biomarkers: (a) markers of brain amyloid such as positron emission tomography (PET) and cerebrospinal fluid (CSF), and (b) markers of neuronal injury like cerebrospinal fluid tau, fluorodeoxyglucose (FDG) for metabolic activity, and magnetic resonance imaging (MRI) for atrophy measurement.

AD disease has a huge impact on life of patient's family, in addition to a high financial cost to society. Currently, there are only two classes of approved drugs to treat AD, including cholinesterase enzyme inhibitors and N-methyl d-aspartate (NMDA) antagonists , which are effective only in treating the symptoms of AD, but do not cure or prevent the disease. Recent research is focusing on understanding AD pathology by targeting several mechanisms, such as abnormal tau protein metabolism, β-amyloid, inflammatory response, and cholinergic and free radical damage, aiming to develop successful treatments that are capable of stopping or modifying the course of AD. Early diagnosis using MRI, PET imaging, newer biomarkers and potential for gene therapy will be discussed .

Medicine secret ingredient - Is it in the timing

Author: Dr Madhav Prabhu, Professor of Medicine JNMC

In Clinical practice it is often noticed that medicines do not give desired effects at therapeutic doses or sometimes even fail to act at all .The immediate response of doctors is to change the dose of the medicine ,often escalating it , try combining it with other medicines or changing the drug all together .We seldom try to understand that there could be factors other than the ones conventionally taught which might have a profound effect on the drug therapeutics and its interactions with the human body .One such possible confounding factor could actually be the time at which the drug is administered , thus this could be the secret ingredient in your prescription .

This ingredient known as chronopharmacology ,could be the focus of research for times to come .This field however is not new to us and in our ancient scriptures and Ayurved we find that the concept of chronobiology is well evidenced by the cyclic alterations of dosas in the body. Ayurved as a preventive as well as healing art has been developed keeping in mind these biological clocks so as to maintain a balanced state of dosas .We are thus merely learning what we have unlearned .There is now research which is being focused on this aspect of medicine and proof of fast emerging that when medicines are synced with the circadian rhythm of humans they are more effective and have lesser adverse effects .The most recent application of this knowledge can be seen in the administration of vaccines .It has been seen that the best time to administer vaccines is in the morning .We have almost never thought of the timing of vaccines but today molecular mechanisms which follow the circadian rhythm have proved that vaccines are most effective at a particular day of the time .We have always wondered why vaccines are not effective in all patients equally and that question can probably be partially answered today .

Recently, there have been prospective cohort studies in China that show that morning vaccination has a positive influence on the neutralising antibody response to an inactivated vaccine against SARS-CoV-2 . Participants vaccinated in the morning had improved B-cell and T follicular helper (Tfh) cell responses at 8 weeks post-vaccination, and higher of circulating monocytes and dendritic cells.

An observational study of UK healthcare workers found that time of day of vaccination with the Pfizer mRNA or Oxford-AstraZeneca adenoviral SARS-CoV-2 vaccines was one of several factors influencing the magnitude of anti-spike antibody responses induced . These observations were also seen in influenza and BCG vaccination thus forcing us to re think vaccination timing which could be a cost effective tool to reduce vaccine failure . Undoubtedly chronovaccinology is a new area of research now .

Another example where chronobiology and medicine have an interface is that of cardiovascular medicine . Hypertension is the best example for this .We are used to giving generic prescriptions which follow guidelines like the JNC and EHC, these guidelines mention a particular drug as the first line irrespective of the person or his phenotype , they also do not mention the time at which these drugs need to be taken .Despite having various antihypertensive agents that have shown their efficacy and safety, the percentage of patients achieving the recommended therapeutic goals is very low. There are several studies which have showed that more than one drug is often required for blood pressure control .In the UKPDS study it was observed that more than one drug was required to achieve a tighter control of blood pressure, and 24% of an patients received three drugs. In the more severe hypertensive patients recruited to the Losartan Intervention For Endpoint reduction (LIFE) trial, 90% of patients required two or more agents to reach mean blood pressure levels of 145/81 mmHg. This means there could be factors other than dose which may effect the efficiency of anti hypertensive medications and this could be the chronobiology of the human body .This emphasises the need to rationalize the hypertension medicines and synchronize it with the circadian rhythm. Infact there are now recognized patterns of blood pressure variations known as nocturnal or early morning dipping patterns which have been shown to follow circadian rhythms .There is a need to tailor the anti hypertensive in tune with these rhythms to improve the efficacy of anti hypertensive medications .

Similar chronological solutions are now also being pursued in rheumatology and oncology which will improve the effectiveness of the drugs but in doing so also reducing their adverse effects. The exact chronobiological cell cycles and inflammatory responses need to be determined to know the time of drug administration like steroids, immunosuppressive medications and biological drugs .

We are thus in the field of chronomedicine where there are infinite possibilities of research and repositioning of our therapeutic strategies to encourage the knowledge of circadian rhythms as the secret ingredient to success of known and yet to be discovered medicines.

Managing Elderly Diabetics with Frailty & Multi-Morbidity

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The elderly population in India has been increasing since 1961.During 2001-11, the elderly population grew by more than 27 million. This increase is expected to be 34 million in 2011-21 and 56 million in 2021-31. In terms of percentage share, it is 10% of total Population in 2021, which is expected to be 13% by 2031.

Amongst elderly patients with chronic conditions, 83% suffered from diabetes mellitus.

The proportion of the elderly ≥60yrs being treated for diabetes mellitus ranges from 70-90% across states of India.

Glucose metabolism varies with age in normal individuals as well.

- Insulin secretion and insulin sensitivity are impaired with increasing age.
- Excess visceral and ectopic (intramuscular and hepatic) adiposity decreases insulin sensitivity by producing the adipokines and cytokines.
- 1–2 mg% increase in fasting blood glucose is noted with each decade. A 15 mg% rise in postprandial or post-challenge glucose levels is also seen after the third decade of life.

Diabetes-related complications & comorbidities increase the likelihood of frailty.

Diabetes is directly associated with accelerated loss of muscle strength and muscle quality, increasing the risk of sarcopenia.

The combination of sarcopenia and frailty, often complicated by neuropathy, mediate the pathway to physical disability.

The highly prevalent nature of diabetes in ageing populations is characterized by

- Complexity of illness, an increased risk of medical comorbidities, the early development of functional decline and risk of frailty.
- When these are coupled with the common and widespread occurrence of delayed diagnosis, frequent admission to hospital, and clinical care systems that may be sub-optimal, makes elderly a special cohort.

Key principles underpinning the management:

· A holistic, individualized care plan is needed for all elderly diabetic

· It is important to adopt a proactive risk identification and minimization approach.

· A focus on patient safety, avoiding hospital/emergency department admissions and institutionalization by recognizing the deterioration early and maintaining quality of life.

· Educational support should be available for families and caregivers.

· Interdisciplinary diabetes care pathways should be developed within the healthcare system.

Where possible, all therapeutic decisions should be based on stratification of risks common in older people.

1. Cost consideration and cost benefit analysis.
2. Level of comorbid illness and/or frailty.
3. Life expectancy including when to implement palliative care.

Functional Categories

Category 1: Functionally independent

Category 2: Functionally dependent

Subcategory A: Frail

Combinations of Fatigue, recent weight loss, severe restriction in mobility and strength, increased propensity to falls, and increased risk of institutionalization

Subcategory B: Dementia

A degree of cognitive impairment that has led to significant memory problems, a degree of disorientation, or a change in personality, and who now are unable to self- care.

Category 3: end of life care

Screening:

Screening for early detection of mild cognitive impairment or dementia should be performed for adults 65 years of age or older at the initial visit, annually, and as appropriate. B ADA 2023

Assessment

Four specific issues need attention in the geriatric diabetes context.

- Neurocognitive dysfunction,
- Hypoglycemia,
- Physical issues, and
- Psychosocial issues.

Goal setting

1. Individuals in good health with little or no cognitive or functional impairment and a long-life expectancy (for example, >10–15 years).
2. Individuals who have some comorbidities and mild disabilities.
3. Individuals who have a high number of comorbidities and/or disabilities and a shorter life expectancy (for example, <5 years).
4. Common clinical aspects are: -

- Frailty
- Sarcopenia,
- Multimorbidity
- Susceptibility to hypoglycemia.

Lifestyle medicine as an upcoming subspecialty in managing metabolic diseases

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A significant proportion, approximately 63%, of premature deaths and chronic diseases can be prevented by adopting healthy dietary patterns, engaging in regular physical activity, and abstaining from smoking.The concept of lifestyle medicine, introduced by Rippe two decades ago, involves integrating modern lifestyle practices into evidence-based medicine. This integration aims to reduce risk factors and provide support for chronic therapies. In the field of lifestyle medicine, a new taxonomy is proposed, highlighting determinants such as drivers for chronic diseases, anthropogens, and metaflammation, which refers to the metabolic inflammatory state. Additional determinants include aspects such as lack of scope in life, estrangement, and lost identity.Despite the abundance of health messages, healthy behaviors remain exceptions rather than the rule. It is crucial for future efforts to shift the focus of practitioners towards effectively supporting individuals in their pursuit of healthier lifestyles. This entails placing greater emphasis on analyzing psychological and social factors.

Substantial body of literature indicates that adopting low-risk lifestyle behaviors and achieving ideal cardiovascular health metrics can significantly reduce the occurrence of illness and death. However, there is ample evidence suggesting that only a minority of the population incorporates these healthy lifestyle practices. In order to tackle the prevention and treatment of non-communicable diseases (NCDs), which are the leading causes of increased morbidity and mortality globally, lifestyle medicine offers a novel and challenging approach.

Effective communication between healthcare providers and patients is crucial in facilitating behavior change. Instead of simply providing education and instructions on what to do, behavior change counseling should be approached as a collaborative and guiding process. It is important to establish a partnership between the provider and patient, working together to identify achievable goals and develop strategies to adopt and maintain healthy lifestyle behaviors.Many doctors lack confidence in prescribing healthy lifestyle or nutritional recommendations. Thus, the establishment of a new discipline in lifestyle medicine can facilitate the development of preventive recommendations. General practitioners will require specific academic training to learn how to effectively promote lifestyle changes for the sake of health, prevention, and disease management. It is imperative that they lead by example and adopt healthy lifestyles themselves.What sets lifestyle medicine apart is its holistic approach, recognizing the intricate connections between lifestyle factors, overall health, and disease outcomes. It acknowledges that an individual's choices regarding nutrition, exercise, stress management, sleep, and other lifestyle aspects have a profound impact on their overall health.The field of lifestyle medicine is driven by evidence-based practices, combining medical knowledge with behavioral and psychological insights to facilitate sustainable behavior change. This discipline emphasizes the importance of patient-provider collaboration, fostering a partnership that encourages individuals to make positive lifestyle choices and maintain them over time.Moreover, lifestyle medicine offers a broad scope of interventions, including personalized dietary recommendations, exercise prescriptions, stress reduction techniques, and smoking cessation support. These interventions are designed to address the root causes of diseases, improve health outcomes, and enhance the quality of life.

By integrating lifestyle medicine into healthcare systems, there is a genuine belief that we can make significant strides in preventing and managing chronic diseases, ultimately leading to improved population health and reduced healthcare costs. The growing interest and recognition of lifestyle medicine among healthcare professionals and organizations further fuel this optimism, paving the way for the development of innovative strategies and initiatives.

In conclusion, lifestyle medicine represents a modern medical discipline that holds great promise. Its focus on empowering individuals to make positive lifestyle choices, coupled with evidence-based practices, has the potential to transform healthcare and create a healthier future for individuals and communities worldwide.

Diabetes Technology – Beyond CGM and Insulin Pump

Author: Rakesh M Parikh, Senior Diabetologist, Diabecity, Jaipur

Two of the most popular diabetes technologies are continuous glucose monitors (CGMs) and insulin pumps. CGMs and insulin pumps can be very effective in helping people with diabetes manage their condition. However, they are not the only diabetes technologies available. There are a number of other technologies that can be used to help people with diabetes live healthier lives.

Glycemic Monitoring -

CGM devices are fast becoming the standard of care when it comes to glucose monitoring at home. Although all patients may not be able to afford it. The alternative option for such patients is structured glucose monitoring using connected glucometers. The patients are advised to monitor their blood sugar levels at specified time points which are decided based on their meal pattern and medication. These time points are expected to capture most of peaks and troughs of their 24 hours glycemic profile. The glucose readings captured by the connected glucometer are saved on the mobile app and can be used to plot the daily glycemic profile similar to that obtained with CGM devices.

Insulin delivery -

Smart and connected insulin pens are an affordable alternative to insulin pump therapy. These pens are connected to a smartphone app and capture information like, timing of insulin dose, amount of insulin dose injected, amount of insulin left in the cartridge, temperature of insulin etc. The user can enter additional inputs like timing of meal, carb content of meal, details of exercise/activity in the app. The smartphone apps are also equipped with insulin dose calculator and carb counting softwares. Some companies have also developed smart caps that can fit with any of the existing insulin pens and convert it into a smart pen.

Complications of diabetes -

Several technological tools have been developed for early detection, prevention and treatment of various complications of diabetes. AI enabled fundus cameras have been widely used. Smart insoles and smart socks that can record pressure points and temperature of feet in real time and transmit the data to healthcare providers have been found to be useful in reducing the risk of foot ulcers and amputations. Multispectral wound imaging cameras can differentiate between gram positive and negative infection with simple photographs of wounds and have been very useful in deciding the empirical antibiotic coverage.

Digital therapeutics and mHealth -

Digital therapeutics is defined as evidence-based therapeutic interventions driven by high quality software programs to prevent, manage or treat medical disorder or disease. Inputs from various wearable devices are processed by algorithms that can suggest interventions. Several such products are currently in various stages of development. There are several smartphone apps that are being used for purposes like glycemic profiling, activity tracking, carb counting, insulin dose calculation etc.

Future of diabetes technology -

Various non-invasive glucose monitoring and continuous glucose monitoring tools are currently in various stages of development. Smart insulins that would become active only when sugar levels are high are being developed. Newers immunotherapeutic agents that can prevent development of type 1 diabetes are in the pipeline. Agents that can induce browning of adipose tissue are also being tried. Efforts are also on to improve the outcomes of islet cell transplant, and stem cell therapy.

Continuous glucose monitoring system (CGMS)

Author: Dr Rutul Goakalani, Consultant at AHC Diabetes Clinc

Continuous glucose monitoring system (CGMS) is a wearable patch on the back of the arm or on the stomach. It checks the glucose level of interstitial fluid every 5-15 mins. There different kinds of CGMs are available in the world which last from 14 to 90 days. In India commonly used and easily available CGMS are Freestyle Libre and Freestyle Libre Pro sensors which last up to 14 days with MARD(mean absolute relative difference) of 10-12%, which means it has good accuracy. CGMS displays immense data realtime blood glucose level, graphical presentation of glucose level of inter day and intraday changes. Newer versions of Freestyle Libre sensors can be connected with phones and it has an alarm system for hypoglycemia and hyperglycemia for the set range. There are few other CGMS companies like dexcom, glucoRx, Eversense.

AHCL (Advanced Hybrid Closed Loop Pump)

Advanced hybrid closed loop pump, also known as an artificial pancreas system, is a type of insulin pump that integrates with a continuous glucose monitoring (CGM) device to automate insulin delivery. Its goal is to maintain blood glucose levels within a target range by adjusting insulin doses in response to real-time glucose measurements.

The hybrid closed loop system consists of three main components: the insulin pump, the CGM device, and a control algorithm. The CGM device continuously monitors the user's glucose levels and transmits the data to the control algorithm. The algorithm analyzes the data and calculates the appropriate insulin dosage needed to maintain glucose levels within the target range. Compared to traditional insulin pumps, which require manual adjustments from the user, hybrid closed loop pumps automate insulin delivery based on real-time glucose readings. This automation can help reduce the risk of hypoglycemia and hyperglycemia by providing more precise and timely insulin dosing. It also reduces the risk of complications in comparison to MDIs and traditional insulin pumps or previous sensor augmented pumps. This pump adjusts the basal insulin dose like previous Minimed 640G pump, it has additional feature of small bolus doses for correction of hyperglycemia, according to the algorithm analyzed the data.

AHCL pump Minimed 780G by Medtronic is available in India. Ypsomed pumps are making space in India. Patch pumps (tubeless pumps) like Omnipod are launching soon in India.

Assessment of Risk Factors of Diabetic Foot by Clinical Examination

Author: Dr. Soumya Sengupta (Jharkhand)

Introduction:

Diabetic foot is a serious complication that affects individuals with diabetes and can lead to devastating consequences if not identified and managed promptly. Assessing the risk factors associated with diabetic foot is crucial for early detection and preventive measures. Clinical examination plays a vital role in identifying these risk factors, allowing healthcare professionals to intervene effectively. This write-up aims to highlight the importance of clinical examination in assessing the risk factors of diabetic foot.

Neuropathy Assessment:

One of the key risk factors for diabetic foot is peripheral neuropathy, which impairs sensation in the lower extremities. During clinical examination, healthcare providers assess neuropathy by conducting sensory tests such as monofilament testing, vibration perception threshold assessment, and pinprick testing. These tests evaluate the patient's ability to perceive touch, pressure, temperature, and pain, helping identify areas of reduced sensation that are prone to injury.

Vascular Assessment:

Another critical aspect of assessing the risk factors of diabetic foot is evaluating the vascular status. Poor blood circulation in the lower limbs can lead to delayed wound healing and an increased risk of infection. Healthcare professionals perform various clinical assessments to evaluate the vascular system, including checking peripheral pulses, assessing capillary refill time, and examining the color and temperature of the skin. These examinations help identify peripheral arterial disease and guide appropriate interventions to improve blood flow and prevent complications.

Foot Deformities and Structural Abnormalities:

Individuals with diabetes are prone to foot deformities and structural abnormalities, such as bunions, claw toes, and Charcot arthropathy. These conditions can contribute to the development of pressure points and increase the risk of foot ulcers. Clinical examination involves inspecting the feet for deformities, evaluating the alignment of the toes and arches, and assessing joint mobility. Identifying these abnormalities allows healthcare providers to provide interventions like orthotic devices, appropriate footwear, and physical therapy to reduce pressure and enhance foot function.

Skin and Nail Assessment:

The integrity of the skin and nails is crucial in preventing diabetic foot complications. Clinical examination involves inspecting the skin for dryness, cracks, calluses, and signs of infection. It also includes examining the toenails for abnormalities like fungal infections or ingrown nails. Timely identification of these issues enables healthcare professionals to provide preventive measures such as moisturizers, proper nail care, and treatment of infections, reducing the risk of complications.

Conclusion:

Clinical examination is a fundamental component of assessing the risk factors associated with diabetic foot. By evaluating neuropathy, vascular status, foot deformities, and skin/nail abnormalities, healthcare providers can identify individuals at higher risk and implement preventive strategies. Early detection and management of these risk factors play a crucial role in preventing foot ulcers, infections, and potential amputations in individuals with diabetes. Regular foot examinations and appropriate interventions based on clinical findings are essential for maintaining optimal foot health in this population.

American Diabetes Association (ADA) released its updated guidelines in 2023

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The American Diabetes Association (ADA) released its updated guidelines in 2023, presenting a comprehensive framework for the management and care of diabetes. This abstract provides a concise summary of the key recommendations and advancements introduced in the ADA 2023 guidelines, aimed at improving the lives of individuals living with diabetes. The ADA 2023 guidelines emphasize personalized care and treatment plans tailored to individual needs. They advocate for a patient-centered approach that takes into account factors such as age, health status, preferences, and psychosocial factors. The guidelines underscore the importance of collaborative decision-making between healthcare providers and patients, fostering shared responsibility and empowering individuals to actively participate in managing their diabetes.

One of the notable updates in the ADA 2023 guidelines is the emphasis on early diagnosis and screening. They provide refined criteria for the diagnosis of diabetes and recommend regular screenings for high-risk individuals. The guidelines also highlight the importance of comprehensive assessments to evaluate the impact of diabetes on various organ systems, facilitating early detection of complications and enabling timely interventions.

Furthermore, the guidelines prioritize individualized glycemic targets, considering factors such as age, comorbidities, and hypoglycemia risk. They recommend a patient-centered approach to glycemic management, integrating lifestyle modifications, oral medications, and insulin therapy as needed. The guidelines also acknowledge the potential benefits of emerging technologies, such as continuous glucose monitoring and closed-loop systems, in achieving optimal glycemic control.

In addition to glycemic management, the ADA 2023 guidelines underscore the significance of a multidisciplinary approach to address cardiovascular risk factors, including hypertension and dyslipidemia. They provide updated recommendations for the management of blood pressure, lipid levels, and the use of cardioprotective medications, aiming to reduce the burden of cardiovascular complications in individuals with diabetes. The ADA 2023 guidelines also acknowledge the psychosocial aspects of diabetes care. They emphasize the importance of addressing mental health, diabetes distress, and social determinants of health, as these factors significantly impact overall well-being and treatment outcomes. The guidelines recommend integrating behavioral health support, peer support networks, and community resources into diabetes management strategies.

Submission of Manuscript in the Journal – The Final Step

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Scientific writing holds immense significance within the medical field as it plays a crucial role in advancing healthcare and improving patient outcomes. It allows healthcare professionals and researchers to communicate their findings, clinical trials, and innovations, facilitating the dissemination of evidence-based knowledge and best practices. By sharing their research through scientific writing, medical professionals contribute to the collective understanding of diseases, treatments, and medical interventions, leading to the development of more effective diagnostic methods, therapies, and preventive measures. Additionally, scientific writing in the medical field enables peer review, ensuring the quality and validity of research, and serving as a foundation for medical education, policy-making, and clinical decision-making. It promotes critical thinking, fosters collaboration, and ultimately drives the progress and evolution of medical science, benefiting patients, healthcare providers, and the overall well-being of society. In this article we discuss a few important points regarding the a few crucial steps of manuscript submission.

Submitting an article to a scientific indexed medical journal can be a rigorous and detailed process. Here's an overview of the steps involved:

1. Select a Suitable Journal: Start by identifying a journal that aligns with the scope and focus of your research. Consider factors such as the journal's impact factor, reputation, target audience, and the relevance of your work to their readership.

2. Familiarize Yourself with Journal Guidelines: Visit the journal's website and carefully read the author guidelines. Pay attention to manuscript formatting, word count limitations, referencing style, and any specific requirements or recommendations.

1. Prepare Your Manuscript: Compose your manuscript following the guidelines provided by the journal. Typically, a scientific article includes sections such as abstract, introduction, methods, results, discussion, conclusion, and references. Ensure that your research adheres to ethical standards and include any required documentation (e.g., ethics approval, informed consent).
2. Title and Abstract: Craft a concise and informative title that accurately represents the content of your article. Write an abstract that succinctly summarizes the objective, methods, results, and conclusion of your study. Make sure the abstract provides a clear overview and highlights the significance of your findings.
3. Structure and Formatting: Organize your manuscript using appropriate headings and subheadings. Ensure the text is clear, concise, and well-structured. Follow the specified formatting guidelines for fonts, spacing, margins, and citations. Proofread your manuscript thoroughly for grammatical and typographical errors.
4. Figures and Tables: If your research includes graphical representations or data tables, ensure they are clear, properly labeled, and relevant. Format them according to the journal's guidelines, and provide appropriate captions or legends.
5. References: Cite all relevant sources accurately and consistently using the required referencing style (e.g., APA, MLA, AMA). Verify the accuracy of your citations and cross-reference them with the bibliography.
6. Cover Letter: Write a cover letter addressed to the editor-in-chief or the handling editor. Introduce your article, provide a brief summary of its significance, and explain why it is suitable for the journal. Mention any conflicts of interest, funding sources, or related information that may be relevant.
7. Manuscript Submission: Visit the journal's website or the designated submission portal. Create an account if necessary and follow the instructions to upload your manuscript, figures, tables, and any supplementary materials. Some journals may require you to submit individual files or merge everything into a single PDF.
8. Review Process: After submission, your manuscript will undergo a peer-review process. Reviewers will evaluate your work for scientific rigor, methodology, significance, and adherence to the journal's guidelines. The review process may take several weeks or even months, depending on the journal and the complexity of the review.
9. Addressing Reviewer Comments: If your manuscript receives reviewer comments, carefully read and respond to each comment. Revise your manuscript accordingly, providing point-by-point responses to the reviewers' concerns or suggestions. Make sure to address all the required revisions thoroughly and resubmit your revised manuscript within the specified timeframe.
10. Acceptance and Publication: If your manuscript successfully addresses the reviewers' comments and meets the journal's requirements, it may be accepted for publication. You will receive instructions regarding the final formatting and proofing process. After completion, your article will be published online or in a subsequent print issue, depending on the journal's publishing schedule.

Remember that the process and specific requirements may vary between journals. It is crucial to carefully review the guidelines provided by the target journal to ensure a successful submission.

"Motivational Interviewing: A missing Link in Clinical Practice"

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Motivational interviewing (MI) is a counselling technique that has been shown to be highly effective in promoting behaviour change and boosting motivation in diabetes patients. It is a collaborative and patient-centred technique that empowers people to investigate and overcome ambivalence regarding making positive changes in their diabetes self-management. MI acknowledges that intrinsic motivation is essential for long-term behaviour modification and seeks to elicit and strengthen this motivation in patients. This article describes the main components and advantages of motivational interviewing in diabetes patient management.

Motivational interviewing begins with the establishment of a respectful and trustworthy relationship between the healthcare provider and the patient. The provider demonstrates compassion, listens attentively, and endeavours to comprehend the patient's perspective and experiences regarding diabetes management.

Patient-centered care include 4 concepts, namely

1. Patient as person, rather than disease or illness experience
2. Biopsychosocial perspective by considering the patient as a whole person
3. Shared power and responsibility and
4. Patient-provider relationship, also known as therapeutic or working alliance.

This technique is based on the principles of empathy, collaboration, eliciting change discourse, and promoting self-efficacy. Empathy is a key component of the therapeutic alliance. It can be expressed by the Ask, Listen, Summarise and Invite approach, where the healthcare provider shows the ability and willingness to understand the diabetic patient's situation by identifying (Ask), understanding (Listen) how the patient sees and feels things and by communicating this understanding during interaction with the patient (Summarise). The healthcare provider can then invite the patient to consider specific diabetes management strategies.

In the context of diabetes care, it can be used to address a variety of issues, including medication adherence, dietary modifications, physical activity, blood glucose monitoring, and managing the emotional challenges of living with diabetes.

Miller and Rollnick (2012) developed four governing principles, abbreviated as RULE, to facilitate the application of MI in health care contexts.
Resist the righting flex: It is essential to resist the temptation to offer solutions or advice immediately. Focus instead on eliciting the patient's own motivation and reasons for change.

- Try to comprehend the patient's perspective and motivations for change by asking open-ended inquiries, actively hearing, and reflecting on what the patient is saying.
- Listen with empathy It is essential to demonstrate empathy for the patient's emotions, experiences, and struggles without passing judgement. This serves to establish rapport and trust with the patient.
- Empower the patient: Support the patient's autonomy by investigating their own ideas and solutions for change, and by assisting them in developing self-confidence and self-efficacy.

Fundamentals of Motivational interviewing

Express Empathy: The health professional listens to the patient without judging them, and tries to hear why it may be hard to change the behaviour even though the patient might know it's harmful. The clinician acts as a guide rather than an expert.

Develop Discrepancy: Here the clinician shows the patient that the behaviour will not result in the outcome they want. For example, the patient might say they want to lose weight, yet they keep eating 'junk'.

Roll with Resistance: Clinicians should refrain from imposing change on the patients by telling them directly what to do, rather should work skillfully to elicit the patient's motivation for change. Accept the patient's choices, provide support and acknowledge uncertainty.

Support Self-Efficacy and Optimism: the Clinician allows the patient to be the expert whilst they are there to provide direction towards change. They show patients that they are capable to change.

In motivational interviewing, the provider avoids confrontation and debate. Instead, they recognise and respect the patient's resistance or reluctance and make an effort to comprehend their concerns and perspectives. By nurturing a nonjudgmental environment, the provider reduces the patient's defensiveness and resistance, allowing him or her to feel more at ease investigating change. After the patient has articulated their motivations and objectives for change, the provider works collaboratively with them to develop a personalised change plan. The plan includes specific, attainable, and realistic objectives for self-management of diabetes. It may involve identifying obstacles and devising strategies to surmount them, in addition to investigating available resources and support systems.

The patient-centered care approach lies on understanding (education) and self-management which includes monitoring tasks and lifestyle adjustments, along with diabetes- specific tasks. Several associations have made recommendations regarding diabetes self-management.The Association of Diabetes Care and Education Specialists 7 Self-Care Behaviors (ADCES7) system is a framework of diabetes self-management education, goal setting, follow up and performance measurement. It is based on 7 self-care behaviours (ADCES and Kolb, 2021), namely

1. Healthy coping
2. Healthy eating
3. Being active
4. Taking medication
5. Monitoring
6. Problem solving
7. Reducing risks

But the success of patient-centered approach requires the following patient characteristics:

1. health literacy (the patient is able to understand his treatment, interpret written information, etc..)
2. self-efficacy and patient activation (patient must be confident to self-manage his diabetes)
3. and mental status or psychosocial influences (assessment, evaluation and treatment of any psychological illness)

Motivational interviewing benefits in diabetes patient care:

Encourages active patient participation in their own diabetes management, thereby increasing their engagement and sense of responsibility towards their health.

It can increase patients' commitment to medication adherence, dietary modifications, and lifestyle changes by investigating ambivalence and intrinsic motivations.

Through collaborative discussions and goal-setting, motivational interviewing helps patients develop self-efficacy and confidence in their ability to effectively manage their diabetes.

Recent Updates in Diabetic Retinopathy

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Diabetic retinopathy (DR) is a complication of diabetes and one of the leading causes of vision loss worldwide. Despite extensive efforts to reduce visual impairment, the prevalence of DR is still increasing. The initial pathophysiology of DR includes damage to vascular endothelial cells and loss of pericytes. Ensuing hypoxic responses trigger the expression of vascular endothelial growth factor (VEGF) and other pro-angiogenic factors. At present, the most effective treatment for DR and diabetic macular edema (DME) is the control of blood glucose levels. More advanced cases require laser, anti-VEGF therapy, steroid, and vitrectomy. Pan-retinal photocoagulation for non-proliferative diabetic retinopathy (NPDR) is well established and has demonstrated promising outcomes for preventing the progressive stage of DR. Furthermore, the efficacy of laser therapies such as grid and subthreshold diode laser micropulse photocoagulation (SDM) for DME has been reported. Vitrectomy has been performed for vitreous hemorrhage and tractional retinal detachment for patients with PDR. In addition, anti-VEGF treatment has been widely used for DME, and recently its potential to prevent the progression of PDR has been remarked. Even with these treatments, many patients with DR lose their vision and suffer from potential side effects. Thus, we need alternative treatments to address these limitations. In recent years, the relationship between DR, lipid metabolism, and inflammation has been featured. Research in diabetic animal models points to peroxisome proliferator-activated receptor alpha (PPARα) activation in cellular metabolism and inflammation by oral fenofibrate and/or pemafibrate as a promising target for DR. In this paper, we review the status of existing therapies, summarize PPARα activation therapies for DR, and discuss their potentials as promising DR treatments.

Controversy in GDM Diagnosis- An Update

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Conventionally, gestational diabetes (GDM) was defined as any degree of glucose intolerance with onset or first recognition in pregnancy regardless of gestational weeks, insulin use or its persistence post delivery. Any woman with overt diabetes before pregnancy was classified as pre-gestational diabetes (Pre-GDM). However, many cases of GDM may actually be undiagnosed pre-existing diabetes that has been detected first time on routine pregnancy screening and was probably missed in the pre-conception period due to lack of awareness.

The WHO-FIGO Classification of Hyperglycemia in Pregnancy tries to simplify the complexities. Women with known T1DM, T2DM or rarer forms of overt pre-existing diabetes before pregnancy are classified as Pre-GDM. Pregnant women with hyperglycaemia that is first diagnosed during pregnancy and meets WHO criteria of diabetes in the non-pregnant state are labelled as having DIP(Diabetes in Pregnancy).DIP is best detected during the first trimester. While women diagnosed with dysglycemia in pregnancy that is clearly not overt diabetes are classified as GDM. GDM may occur at anytime during the antenatal period and is not expected to persist postpartum.

Diagnosis of GDM-

There has been a lot of confusion on the diagnosis of GDM- when to screen, who to screen, how to screen as well as diagnostic cut offs.

In the western world screening for GDM is still largely selective and targeted. The ADA-EASD guidelines advocate universal early screening at less than 15 weeks for any undiagnosed hyperglycemia only in racial and ethnic groups at high risk or those with risk factors for developing GDM such as later age of conception, obesity, family history of T2DM, bad obstetric history, Polycystic ovarian disease or a history of GDM in previous pregnancy, but for those without these risk factors, screening is still recommended at 24-28 weeks. However, things are different in our part of the world. Asian Indians are at a much higher risk for developing GDM and Indian women have 11-fold increased risk of developing glucose intolerance during pregnancy compared to Caucasian women. Therefore universal screening for GDM is mandatory in all pregnant women in our part of the world.

The International Association of the Diabetes and Pregnancy Study Group (IADPSG) GDM diagnostic criteria following a 75-g OGTTfor the screening and diagnosis of GDM are recommended by most organisations worldwide including the ADA/EASD and ACOG. These are based on the HAPO Study outcomes which included women in later half of pregnancy and did not really include women in early pregnancy (1st trimester).

IADPSG recommends Performing a 75-g OGTT, with plasma glucose measurement when patient is fasting and at 1and 2 h post 75-g oral glucose dissolved in water, at 24–28 weeks of gestation in women not previously diagnosed with diabetes.

The OGTT should be performed in the morning after an overnight fast of at least 8 h.The diagnosis of GDM is made when any ONE of the following plasma glucose values are met or exceeded:

Fasting ≥92 mg/dL (5.1 mmol/L)

1 Hour post glucose ≥180 mg/dL (10.0 mmol/L)

2 Hour post glucose ≥153 mg/dL (8.5 mmol/L)

SE Asian population also did not have any major representation in this study and its applicability ot our population has always been questionable.

Furthermore, in a country like ours, especially in the rural belt with resource deprived infrastructure, there are real challenges such as calling a woman fasting for an OGTT and then retaining her at the health facility and pricking her thrice for the glucose readings as per IADPSG recommendations.

Therefore, in India we follow the ,The DIPSI Test, a single step simple feasible and economic test has been approved by Ministry of Health Government of India, WHO, IDF and International Federation of Gynecologists & Obstetricians Society (FIGO) for screening all pregnant women for GDM. This test has stood the test of time and is followed in many SE Asian countries including Nepal, Pakistan etc

In the antenatal clinic, a pregnant woman after undergoing preliminary clinical examination, is given a 75 gm oral glucose dissolved in about 300ml water over 5-10 minutes without regard to the time of the last meal.GDM is diagnosed if 2 hr plasma glucose is ≥140 mg/dl. Thus test has shown great specificity and sensitivity for GDM detection and is today considered a standard test for GDM screening in our population.

The first testing should be done during the first trimester as almost one third of GDM positive women are detected during this period or first antenatal contact as early as possible in pregnancy. If found negative at this time, the second screening test is to be performed again around 24th – 28th week.

The rationale behind the test is simple- After a meal, a normal glucose tolerant woman would be able to maintain euglycemia despite a glucose challenge due to brisk and adequate insulin response as a result of normal beta cell functioning. But a woman with GDM who has impaired insulin secretion-glycemic level increases with a meal & hence an exaggerated glycemic excursion is seen post a glucose challenge .It stands to reason that if in the non-pregnant state 2hr PG > 140mg/dl is considered abnormal (Impaired glucose tolerance- IGT) and given attention, then it is sensible enough to consider this level abnormal during pregnancy as well!

Topic: Emerging Role of Sodium Glucose Cotransporter-2(SGLT-2) In hibitors in Diabetic Cardiovascular Diseases: Focusingon Immunity, In flammationand Metabolism

Author: Dr. Vinod Mittal, Sr. Consultant Diabetologist, Delhi

Diabetes mellitus (DM) is a rapidly evolving global issue characterized by high blood sugar levels (hyperglycemia) and is associated with an increased risk of adverse cardiovascular events. Novel antidiabetic agents known as sodium-glucose cotransporter-2 (SGLT-2) inhibitors have emerged as effective therapies for diabetes by reducing glucose reabsorption in the kidneys. In addition to their hypoglycemic effects, SGLT-2 inhibitors have shown promising cardiovascular benefits, including a reduced incidence of major adverse cardiovascular events and protection of extracardiac organs. However, the underlying mechanisms responsible for these cardiovascular protective effects of SGLT-2 inhibitors are not yet fully understood.

This review aims to comprehensively compile the multifactorial mechanisms of SGLT-2 inhibitors, focusing on immunity, inflammation, and metabolism, as these processes play crucial roles in diabetic cardiovascular diseases. Inflammation and metabolic dysfunction are known to contribute significantly to the development and progression of cardiovascular complications in diabetes. The cellular and molecular processes involved in the regulation of immunity, inflammation, and metabolism by SGLT-2 inhibitors are discussed in detail.

Studies have revealed that SGLT-2 inhibitors exert their cardiovascular protective effects through various immunological mechanisms. Macrophages, key immune cells involved in the pathogenesis of diabetic cardiovascular diseases, play a critical role in the initiation and progression of inflammation. SGLT-2 inhibitors have been shown to reduce macrophage infiltration and shift macrophage polarization from a pro-inflammatory M1 phenotype to an anti-inflammatory M2 phenotype, thereby attenuating cardiac tissue damage. Moreover, SGLT-2 inhibitors can modulate inflammatory cytokine expression, inhibit inflammasome activity, and regulate immune signaling pathways such as JAK/STAT and RISK pathways, contributing to the overall cardioprotective effects.

Furthermore, the interaction between SGLT-2 inhibitors and microRNAs (miRNAs) in the pathogenesis of diabetic cardiovascular diseases is explored. Although limited studies have investigated this aspect, it has been shown that SGLT-2 inhibitors can modulate the expression of certain miRNAs associated with cardiac function and inflammation. In conclusion, SGLT-2 inhibitors exhibit beneficial effects on diabetic cardiovascular diseases by regulating immunity, inflammation, and metabolism. The multifactorial mechanisms underlying these effects involve modulation of macrophage infiltration, polarization, cytokine expression, and immune signaling pathways. Further research is needed to uncover the complete picture of how SGLT-2 inhibitors exert their cardioprotective effects and to explore additional potential therapeutic targets. Understanding these mechanisms will aid in the development of strategies to prevent or delay cardiovascular complications in patients with diabetes using SGLT-2 inhibitors.

Non Statin Therapy for Lipids

Author: Dr Wasir JS

While statins are commonly prescribed as the first-line treatment for dyslipidemia, there are several management strategies that can be used in addition to or instead of statins. Here are some options for managing lipid management beyond statins:

1. Lifestyle Modifications: Encouraging lifestyle changes is essential in managing dyslipidemia. This includes adopting a heart-healthy diet, such as the Mediterranean or DASH (Dietary Approaches to Stop Hypertension) diet, which emphasizes fruits, vegetables, whole grains, lean proteins, and healthy fats. Regular exercise, weight management, and smoking cessation are also important components of lifestyle modifications.
2. Non-Statin Medications: Several non-statin medications can be used to manage dyslipidemia. These include:

   Ezetimibe: Ezetimibe inhibits cholesterol absorption in the intestine, resulting in reduced LDL cholesterol levels.

   PCSK9 inhibitors: These injectable medications (such as evolocumab and alirocumab) help lower LDL cholesterol levels by increasing the liver's ability to remove LDL cholesterol from the bloodstream.

   Bile acid sequestrants: Medications like cholestyramine and colesevelam bind to bile acids in the intestines, reducing their reabsorption and increasing the excretion of cholesterol.

   Fibrates: Fibrates (such as fenofibrate and gemfibrozil) primarily target elevated triglyceride levels, and they can also increase HDL cholesterol levels.

   Omega-3 fatty acids: Prescription-strength omega-3 fatty acids, like icosapent ethyl, can be used to lower triglyceride levels.
3. Combination Therapy: In some cases, combining different lipid-lowering medications can be beneficial, especially for patients with very high cholesterol levels or multiple lipid abnormalities. Combining statins with ezetimibe, PCSK9 inhibitors, or other non-statin medications may be considered.
4. Management of Underlying Conditions: Addressing and managing underlying conditions that contribute to dyslipidemia, such as diabetes, hypothyroidism, and kidney disease, is important in optimizing lipid levels.
5. Lipid Apheresis: Lipid apheresis is a procedure that filters the blood to remove LDL cholesterol and other lipids. It is typically reserved for individuals with severe dyslipidemia who have not responded to other treatments or have genetic lipid disorders.
6. Genetic Testing: In certain cases of familial hypercholesterolemia or other genetic lipid disorders, genetic testing can help identify specific genetic mutations that contribute to dyslipidemia. This information can guide treatment decisions and may lead to the consideration of specific therapies tailored to the underlying genetic cause.

It's important to note that the management of dyslipidemia should be individualized based on a person's risk factors, overall health, and response to treatment.

Original Research Abstract

1)
Abstract title :
Pre meal almond intake and glycemic control (ppbs)

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Lumding divisional railway hospital
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Background:
to study the effect of pre meal intake of almond on ppbs level in t2dm patients
Method:
80 t2dm patients of age group 40-55 years comprising of both male and female, who are uncontrolled on metformin 1000 mg bd and glimepiride 2 mg bd are divided into 2 groups of 40 , and the two groups are named intervention and control group.
intervention group were asked to take 20 gm of almond 30 minutes before lunch and dinner and counselled for strict maintainance while control group were not asked to take almonds.
no additional exercise regime for either group.
Result *

t2dm patients who consume 20 gm of almond 30 minutes before lunch and dinner can have a better glycemic control (ppbs)
Conclusion:
both the groups were followed for 4 months and their ppbs were measured every weekly and it was found that intervention group had an average ppbs fall of 46 mg/dl

2)

Title: The Effect of Ocimum sanctum (Tulsi) on Blood Pressure & other clinical parameters in Hypertensive patients of a tertiary care centre

Author: INdrashis Mukherjee1 And Dr. Narsingh Verma2

Affiliation: 1. Department of Pharmacology , 2. Department of Physiology; King George's Medical University , Lucknow , India

Background:-

Aims &objectives:- The main aim of this study is to investigate the effect of Tulsi on blood pressure & on clinical parameters of hypertensive patients.

Methods:- 100 patients were randomly selected for this study from the OPD of Department of Medicine, KGMU. Detailed history of each patient was obtained regarding age, sex, year of diagnosis & duration of Hypertension, associated risk factors , family history & any associated illness. Cases were divided into 2 groups randomly, one group received placebo , served as control group & another group received Tulsi extract & served as study group. Patients of study group were asked to take 5 ml of Tulsi extract with plain water in morning & evening before food for 3 months regularly. Baseline parameters were taken of every patient i.e. BMI, FPG, BP, HbA1c, Lipid profile.

Results:- Anthropometric & Biochemical data of control & study groups were studied for different variables in the beginning & end of study & there was no significant difference in baseline parameters. On comparing control & study population for effect of Tulsi therapy an improving trend was observed in study group after 3 months treatment , changes in all parameters were found significant except W/H ratio & BMI.

Conclusion:-Tulsi therapy significantly reduces blood sugar, BP , Lipid profile. Therapeutic effect of Tulsi is shown & can be used with diet & drugs for management of high BP.