# Prevention First Newsletter Online May 2024

# The coverage of Symposium'24 applauded

PFN-Online very comprehensively covered the PCDA's Mega Event

8th. International PCDA Symposium 2024 held on 17&18 February 2024 in Hotel Movenpick Karachi, was a marathon of academic and social events like innovative poster presentations, interactive workshops, stat of the art keynote lectures, thought provoking case presentations, mind blowing clinical debates, exciting finale of HPL-PCL series, very informative panel discussions, sensational motivational speeches, shields/certificates/awards/mementoes distributions, inspiring lucky draws etc.

Primary Care Diabetes Association Pasymposia for last 16 years. This year (2024) we had the 8th. one. All these events were attended by hundreds of healthcare professionals, mostly primary care diabetologists, travelled from all the enthusiastic participants who were also the part of organizing committees. Live coverage of the mega event was of the viewers countywide and internationally.

"Prevention First Newsletter" is the official newsletter of PCDA. Special edition kistan has been arranging its biennial of "Prevention First Newsletter" was published on this occasion and distributed among the attendees of the symposium. PFN-Online Newsletter is issued on the 15th. Day of every month. Previous two issues (March & April'24) covered areas of the country. Heads of many of initial sessions of the symposium. In this the 60 chapters of PCDA were among issue you will find the reports on the remaining sessions. We are indeed overwhelmed by the very encouraging comments on the coverage of the symposium witnessed on social media by thousand by Newsletter, sent by the renowned professors of Pakistan and abroad. We are including a few of these in this issue.



Hotel Movenpick Karachi Pakistan The Venue of 8th. International PCDA Symposium (17-18 Feb'24)



One of the best Newsletter from societies, I have ever seen.



Excellent effort by very dynamic PCDA team. This newsletter reflecting the superb activities of PCDA. Masha Allah growing not only in volume but in quality also.



Well-done Team PCDA. The new face of the newsletter is splendid Keep it up!

Brilliantly covered each and every moment

of the symposium. Hats off for the publications committee



A very comprehensive coverage of the symposium. Shows the hard work of the whole team



Congratulations on publishing such a beautiful newsletter with comprehensive coverage of the symposium

### Editor's Note

"Prevention First Newsletter" has now become the identity and the face of PCDA. We used to print it periodically after every 3 months as well as on all the special occasions. It had limited circulation among the members of PCDA only. Now is the era of social media and spreading your message more effectively and more widely, is impossible without using social media. From September 2023 we started the monthly online version of "Prevention First Newsletter" with the title of "PFN-Online," released on the 15th. Day of every month, and you are reading its 9th. Issue. We have tried our best to cover all the academic and social activities arranged under the logo of PCDA. There has been very constructive and very encouraging responses from our readers, and they feel that the message f PCDA can now reach to more and more people through online media.

The coverage of the 8th. International PCDA Symposium held on 17 & 18 February 2024 in Karachi was really a great challenge for the editorial board and the publications committee, because it had a huge amount of reports and pictures needed to be shared with the readers. We decided to report in detail, all the lectures, workshops, panel discussions and other sessions etc. We wanted to preserve the academics flavor while reporting the speech. How much we succeeded in it, is relected from very encouraging remarks sent by very senior professors of various fields of medicine. We are including only a few of these in the current issue.

With the expanding horizons now the Primary Care Diabetes Association (PCDA) has become the largest non governmental non profit organization of Pakistan working for the noble cause of control of diabetes at primary healthcare level. Since its foundation it has left no stones unturned to achieve this goal. Till date PCDA has established 60 chapter all over Pakistan which are constantly working for the people with diabetes and also for the healthcare professionals working at primary care. This is again a new challenge for the publications committee to cover the activities happening with a constant pace. Videos of many of te activities are available on http://www.youtube.com/ @pcda.pakistan. We try our best to ensure the quality and authenticity of reporting which naturally requires readers feedback and guidance. Please feel free to send your comments and suggestions to improve the quality of PFN-Online. Our Email: preventionfirstnewsletter@gmail.com. All the issues are now available on PCDA's official website, https://pcdapak.org/print-media/

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# Managing Diabetes During Ramadan: **Balancing Spiritual Observance and Health**

Lecture By: Prof. Muhammad Yakoob Ahmedani

A very informative and scholarly presentations on "Managing diabetes during Ramadan," by Prof. M. Yaqoob Ahmadani was the hallmark of the Session-II of the symposium. He focused on balancing spritiual observance and health of the people with diabetes who want to fast during the holy month of Ramadan. Also this was the only talk of the symposium on the topic



### Prof. Muhammad Yakoob Ahmedani

**Deputy Director** Baqai Institute of Diabetology & Endocrinology Professor of Medicine Baqai Medical University

Chairman Ramadan and Hajj Study Group, Pakistan Co-chair IDF-Task force; fasting and diabetes

Feroz Memon.

Prof. Yaqoob starting his talk informed the audience that estimates suggest that there are over 150 million Muslims with diabetes worldwide, and almost 116 million may choose to fast during Ramadan. Over the next 25 years, the increase in the number of adults with diabetes in Muslim-majority regions is expected to be in excess of the Forecast global average. growth in adults with diabetes for the years between 2021-2045, according to the IDF Atlas 10<sup>th</sup> Edition is 86% in MENA region, 129% in sub-Saharan region, 69% in south east asia region and 46% globally. He said that multiple factors influence the risks of Ramadan fasting in an individual with diabetes. These factors are: type of diabetes, level of glycemic control, medications presence used, of morbidities and personal circumstances.

He referred to the results of the EPIDIAR study which showed

a fivefold increase in the inci-Panelists for this session dence of severe hyperglycemia were: Prof. Zaman Sheikh, (requiring hospitalization) dur-Prof. Shabeen Naz Masood, ing Ramadan in patients with Prof. Musarrat Riaz and Prof. type 2 diabetes (from 1 to 5 events · 100 people<sup>-1</sup> month<sup>-1</sup>) and an approximate threefold increase in the incidence of severe hyperglycemia with or without ketoacidosis in patients with type 1 diabetes (from 5 to 17 events · 100 people<sup>-1</sup> · month<sup>-1</sup>). Hyperglycemia may have been due to excessive reduction in dosages of medications to prevent hypoglycemia. Patients who reported an increase in food and/or sugar intake had significantly higher rates of severe hypergly-

> Prof. Muhammed Yaqoob Ahmadani also referred to the **CREED** study which showed that During Ramadan, the proportion of participants on oral anti-diabetic medication alone ranged from 68.4% (Middle East) to 80.5% (Asia); the proportion on insulin alone ranged from 3.7% (Middle East) to 8.6% (Europe) The incidence of hypoglycaemia, during Ramadan, for the entire cohort was 16.8% with insulin treatment and 5.3% with oral diabetic medication.

Discussing on the question if Is it safe to fast for people with diabetes? The honorable professor referred to the *Ramadan Pro*spective Diabetes study. Prof. Yaqoob is the principal author of this study which showed that A total of 3946 readings were obtained in 110 subjects; 82 readings were in the hypoglycaemic range, and there were 22 episodes of symptomatic hypoglycaemia and 60 episodes of biochemical hypoglycaemia observed in 27 patients. Seven patients experienced symptomatic hypoglycaemia, whereas 20 patients had biochemical hypoglycaemia. Symptomatic hypoglycaemic episodes showed a downward trend from weeks 1 to 4. The highest frequencies of hypo- and hyperglycaemic episodes were observed pre-dawn. None of the patients developed diabetic ketoacidosis or hyperglycaemic hyperosmolar state. He observed that, with active glucose monitoring, alteration of drug dosage and timing, dietary counselling and patient education, the majority of the patients did not have any serious acute complications of diabetes during Ramadan. .....contd

# Impact of pre-Ramadan education

Prof. M. Yaqood Ahmadani Ramadan-specific during his talk emphasized on management the impact of pre-Ramzan Ed- tions were followed better ucation on the outcomes of compared with patients who the safe fasting. He focued on did not receive education. Im- individual's ability to self- involved in a collective effort weight loss and rduction in proved perception and re-manage diabetes and other to ensure Ramadan fasting the risk of hypoglycaemia, sponse to hypoglycemia, bet- aspects increasing the risk of can be safe. reduced incidence of hypogly- ter HbA1c and weight reduccaemia and improved glycae- tion. mic control, Reductions in PRE hypoglycaemic events with no **MENT**: All individuals seek- **FOCUSSED EDUCATION**: severe events or hospitaliza- ing to fast should attend a pre- Ramadan focused education blood glucose monitoring, tions in T1D, Improved gly- Ramadan visit 6-8 weeks be- should aim to target HCPs, fluid and dietary advice, physcaemic control, no notable changes to biochemical or biometric measures in high- risk individuals.

recommenda- bidities should be assessed. The individual's prior experifessionals, the diabetic person ence in managing diabetes and the community as a during Ramadan fasting, the whole. All these groups are fasting should also be as- KEY COMPONENTS OF

fore Ramadan. To stratify risk people with diabetes that are ical activity/exercise advice, and develop an individualised fasting and members of the medicine adjustments, trial management plan, detailed general public. All these fasting, when to break the fast medical history, aspects of groups are involved in a col- and recognition of hypo and diabetes and ability to self- lective effort to ensure Rama- hyperglycemia symptoms. dan fasting can be safe.

diabetes manage, presence of comor- Main targets og focused education are the healthcare pro-

RAMZAN FOCUSSED ED-UCATION: Risk identifica-RAMZAN ASSESS- TARGETS OF RAMZAN tion and quantification, removing misconceptions,

### **RISK OUANTIFICATION:**

MISK QUANTIFICATION.					
Risk Element	Risk	···		Risk Element	Risk Score
	Score			10.70	
1.Diabetes type		Gliclazide/MR or Glimepride or 0.5		10. Pregnancy	
Type 1 diabetes	1	Repeglanide		Pregnant not within targets	6.5
Type 2 diabetes	0	Other therapy not including SU or Insulin	0	Pregnant within targets	3.5
2. Duration of Diabetes (years)		6. Self-Monitoring of Blood Glucose		Not Pregnant	0
A duration of ≥ 10	1	Indicated but not conducted	2	11. Frailty and Cognitive function	
A duration of < 10	0	Indicated but conducted	1	Impaired Cognitive Function or Frail	6.5
3. Presence of hypoglycemia		Conducted as indicated	0	>70 years old with no home support	3.5
Hypoglycemia unawareness	6.5	7. Acute complications		No frailty or loss in cognitive function	0
Recent Severe hypoglycemia	5.5	DKA/ HONC in the last 3 months	3	12. Physical Labour	
Multiple weekly Hypoglycemia	3.5	DKA/ HONC in the last 6 months	2	Highly Intense Physical Labour	4
Hypoglycemia less than 1 time	1	DKA/ HONC in the last 12 months	1	Moderate Intense Physical Labour	2
No Hypoglycemia	0	No DKA or HONC	0	No Physical Labour	0
4. Level of glycemic control		8. MVD Complications/Comorbidities		13. Previous Ramadan Experience	
HbA1c levels > 9% (11.7 mmol/L)	2	Unstable Macrovascular disease	6.5	Overall Negative Experience	1
HbA1c levels 7.5–9% (9.4–11.7 mmol/L)	1	Stable Macrovascular disease	2	No Negative or Positive Experience	0
HbA1c levels < 7.5% (9.4 mmol/L)	0	No Macrovascular disease	0	14. Fasting Hours (Location)	
5. Type of treatment		9. Renal Complications/Comorbidities		≥16 hours	1
Multiple daily mixed insulin Injections	3	eGFR < 30 mL/min	6.5	<16 hours	0
Basal Bolus/Insulin pump	2.5	eGFR 30-45 mL/min	4		
Once daily Mixed insulin	2	eGFR 45-60 mL/min	2		
Basal Insulin	1.5	eGFR >60 mL/min	0		

Hassanein M, Afandi B, Ahmedani MY, Alamoudi RM, Alawadi F, Bajaj HS, Basit A, Bennakhi A, El Sayed AA, Hamdy O, Hanif W. Diabetes and Ramadan: practical guidelines 2021. Diabetes research and clinical practice, 2022 Mar 1:185:109185.

RISK SCORE AND RISK **CATEGORIES**  **SCORE 2 TO 3** 

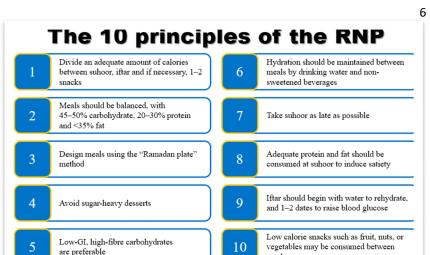
LOW RISK

SCORE 3.5 TO 6

MODERATE RISK

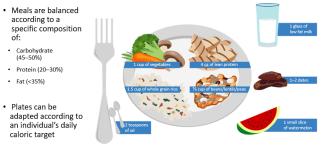
SCORE > 6

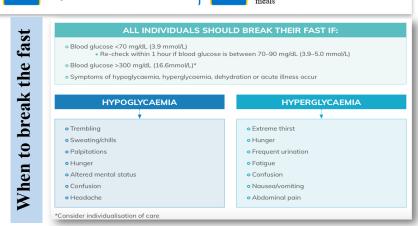
HIGH RISK



# The "Ramadan plate" method\* is advised as a guide to designing balanced meals

of hypoglycaemia/ hyperglycaemia or feelings





# The "Ramadan plate" method\* is advised as a guide to designing balanced meals



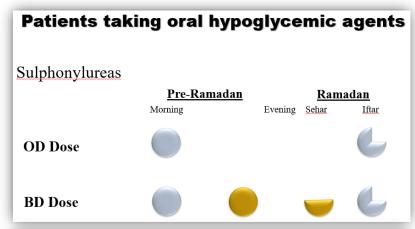
# Patients taking combination of oral hypoglycemic agents

Those on combination of <u>secretagogues</u> and other oral hypoglycemic agents would require adjustment in dosage and timing of all the drugs in the combination

# **Patients taking insulin**

Patients who take long acting basal insulin, such as glargine, should reduce the dose by 30%.

Those taking with combination of <u>sulphonylurea</u> in addition of this reduction also need to reduce the dose of sulphonylurea to 75% of actual dosage.



### Patients taking combination of oral hypoglycemic agents

Those on combination of <u>secretagogues</u> and other oral hypoglycemic agents would require adjustment in dosage and timing of all the drugs in the combination



Premixed insulins

<u>Pre-Ramadan</u>

<u>Ramadan</u>

Morning

Evening Sehar

**BD** Dose









Prof. M. Yaqoob Ahmadani concluded his talk with the massage that Pre-Ramadan educational programmes should target people with diabetes, HCPs, and the general public that serves as the support network.

Also Structured education programmes should include information on risk quantification, SMBG, diet, exercise and physical activity, medication adjustments and dose testing, recognition of the symptoms of complications, and when to break the fast to avoid harm.



LECTURE-3 SESSION-II

By: Dr. Aysha Shaikh

Dr. Aysha Shaikh is Working as consultant Endocrinologist, special interest in antenatal Diabetes & Endocrinology. Actively involved in research and teaching of both undergraduates and postgraduates. Remained Endocrinology Fellowship program director at The Aga Khan University Hospital from 2015 to 2017. Took an active part in the development of GDM-SAFES recommendation and action plan.

> The topic of her talk was Global cases due to diabetes detected pri-Perspectives on Gestational Dia- or to pregnancy is 10.6%. betes; Bridging Gaps In Diagnosis, Treatment and Care.

9.1%. Similarly the Proportion of women with GDM.

She said that immediate neonatal complications, including congeni-Initially she gave global estimates tal anomalies, neonatal hypoglyof hyperglycemia in pregnancy. cemia, respiratory distress, need In Total live births to women for admission to neonatal intenaged 20-49 years, hyperglycemia sive care are all increased in bain pregnancy is 16.7% globally. bies born to mothers with hyper-Proportion of cases due to GDM glycemia in pregnancy. Women is 80.3% while Proportion of cas- with pre-pregnancy diabetes carry es due to other types of diabetes an even higher risk of developing first detected in pregnancy is adverse pregnancy outcomes than

Classifying Hyperglycemia in pregnancy she told that Hyperglycemia that is first detected at any time during pregnancy is classified as either Gestational diabetes mellitus (GDM), Diabetes mellitus in pregnancy or women with preexisting Type 1 or Type 2 Diabetes. All pregnant women should be screened for abnormalities of hyperglycemia. Women who hav pre-existing diabetes (T1 or T2DM) or Pre-Diabetes should be managed as hyperglycemia in pregnancy. Other women should undergo a "One Step OGT" with 75gm oral glucose on first antenatal visit. Women with normal results should be rescreened after24-48 weeks of gestation.

# Diagnostic criteria for GDM

TEST	Fasting plasma glucose	1 Hour Post Glucose	2 Hours Post Glucose	Diagnosis
75gm 2h OGTT	≥92 mg/dl and <126 mg/dl	≥180 mg/dl (≥10.0 mmol/L)	≥153 and <200 mg/dl	1 or more positive value(s)

### HbA1C is not recommended for diagnosis of GDM

## RECOMMENDED GLYCEMIC TARGETS

	Timing	Goal	
		mg/dl	mmol/l
Fasting and premeals	On awakening	<92 (<95)	<5.1(<5.3)
1-hour postprandial	1 hour after every meal	70-140	3.9-7.8
2-hour postprandial	2 hour after every meal	70-120	3.9-6.7

pre-pregnancy clinics favor well-educated women and the most socioeconomically advantaged women with the lowest risk of adverse pregnancy outcomes. Women at higher risk are much less likely to seek pre-pregnancy care. Thus, if overall pregnancy outcomes are to be improved these inequalities in pre-pregnancy care need to be addressed.

Rates of GDM have been increasing and with the rising prevalence of obesity among women of reproductive age, it is likely that they will continue to increase. More troubling is the evidence from observational long-term follow-up studies that substantiates the presence of a cycle of diabetes between mother and child. Children exposed to GDM and hyperglycemia in pregnancy represent a population at risk for development of metabolic diseases. To date, the few intervention

# therefore be supported to optimize glycemic control both prior to and during pregnancy and establishment of pre-pregnancy counseling should be prioritized. A recommendation for systematic preconception

To facilitate the best intrauterine conditions for the fetus, women with pre-pregnancy diabetes should

A recommendation for systematic preconception counselling is clearly stated in the guidelines regarding management of diabetes in pregnancy from the American Diabetes Association (ADA) Preconception care includes risk factor identification, screening for abnormalities of glucose homeostasis and/or other metabolic abnormalities prior to conception.

**Combined Maternal** 

**Diabetes (CMD) Clinic** 

# CMD Clinic will offer advice on management of diabetes for:

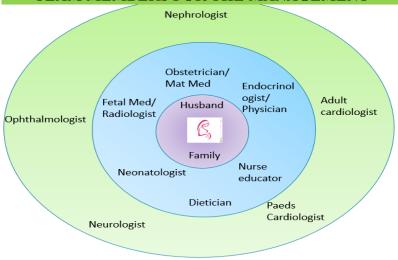
- Pre-gestational Diabetes Mellitus
- · Gestational Diabetes Mellitus

### Our CMD clinic provides services for:

- · preventing diabetes related complications during pregnancy
- ensuring diabetic women can enter pregnancy in an optimum state of health and metabolic control
- ensuring optimal glycemic control during pregnancy

studies comparing children of euglycemic to untreated GDM mothers have failed to demonstrate metabolic differences in young children under the age of 10 years. Yet, the large, epidemiological observational HAPO FUS provides evidence that untreated maternal hyperglycemia is associated with increased adiposity and disorders of glucose metabolism in pubertal offspring. Longer follow-up evaluation of offspring from mothers involved in prior GDM intervention studies is necessary to definitively address the impact of maternal GDM on offspring metabolic health. In conclusion, optimizing diagnoses and treatment of GDM may be an important strategy to prevent adverse metabolic health outcomes in offspring.

### TEAM MEMBERS FOR THE MANAGEMENT



(Corporate Session)

# Diabetes Management;

# Exploring Patient Classification for Better Outcome

A dehate between

# Dr. Imtiaz Hassan

### And

# <u>Dr. Zahid Miyan</u>



Starting the debate Dr. Imtiaz Hassan said that Glycemic Control Should be the top priority in Diabetes to prevent complications because Glycemic Controls remains the important factors in reducing CV events.

For patients with T2DM, multivariable analyses revealed that a 1% reduction in HbA1c was associated with a 2% reduction in all-cause total health care costs and a 13% reduction in diabetes-related total healthcare costs. Reducing hemoglobin (Hb) A<sub>1c</sub> levels as soon as possible after the diagnosis of type 2 diabetes results in a reduction in the diabetesrelated complications, including myo-



cardial infarction (MI) and all tensive -cause mortality. This early compared with patients ran- the "metabolic memory" de- trol. reduction in the HbA1c level domized to conventional glu-scribed in type 1 diabetes. effect found in the UKPDS HbA1c levels were virtually seen for MI and for all-cause Diabetes Study). The legacy ing the 10-year observational 16% with intensive HbA1c effect refers to the signifi- follow-up of the original control versus conventional cantly lower risk for diabetes- UKPDS. The legacy effect, control at the end of the origirelated complications found which is the continuing bene- nal study. At 10 years of fol-

glycemic explains the so-called legacy cose control, although the This persistence in effect was (United Kingdom Prospective the same in both groups dur- mortality. MI was reduced by

control glucose control, is similar to was found with intensive con-

All-cause mortality was reduced by 6% with intensive versus conventional control at the end of the original study, and the rate increased to a 13% risk reduction with intensive control at 10 years, with similar glycemic control



Answering to this question Dr. Imtiaz pregnancy in such women. Hassan advocated the importance of Polycystic helps people with diabetes lose excess elevated blood sugar. weight. Metformin may also have health benefits for people who don't have diabetes. Doctors have long prescribed it off-label including prediabetes. People with prediabetes have elevated blood sugar that isn't yet high enough to qualify as diabetes. Metformin may delay the onset of diabetes or even prevent it among people with prediabetes.

Gestational diabetes. Pregnant women may develop elevated blood sugar that Lower the risk of cancer in persons with returns to normal after delivery. Metfor-

Can we put aside metformin? min can help control blood sugar during of the breast, colon, and prostate.

sugar in people with diabetes. It also of- hough the results of clinical studies are not taking it. fers them cardiovascular benefits, in- mixed, metformin has been prescribed cluding lower rates of death due to car- for years for women with PCOS to help diovascular disease. And it sometimes with menstrual regulation, fertility, and

> cines. Antipsychotics are powerful medeases such as schizophrenia. One com- health. mon side effect is significant weight gain. Metformin may lessen weight gain among some people taking these drugs.

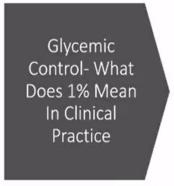
In addition, researchers are investigating the potential of metformin to

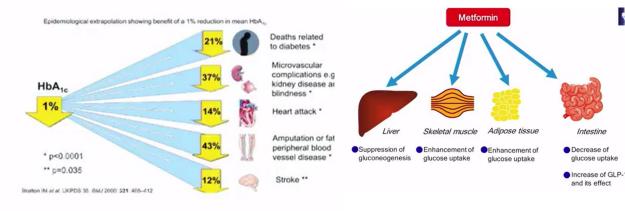
type 2 diabetes. These include cancers

Lower risks for dementia and syndrome stroke. Some studies have noted less Metformin in achieving the optimal (PCOS). This disorder tends to affect cognitive decline and a lower rate of degoals in the management of T2DM. For young women whose ovaries develop mentia, as well as a lower rate of stroke, decades we've known that metformin multiple cysts. Menstrual irregularities among people with diabetes taking metdoes more than just help lower blood and fertility problems are common. Alt- formin compared with those who were

> Slow aging, prevent age-related disease, and increase lifespan. Preliminary studies suggest that metformin may actually slow aging and increase life expectan-Weight gain from antipsychotic medi- cy, possibly by improving the body's responsiveness to insulin, antioxidant ications prescribed for psychiatric dis- effects, and improving blood vessel

> > Because the vast majority of research regarding metformin included only people with diabetes or prediabetes, it's unclear whether these potential benefits are limited to people with those conditions, or whether people without diabetes may derive benefit as well.





Metformin Significantly Delays the Need for **Treatment** Intensification vs. Other Oral Anti-hyperglycemic Agents1

# 37.1% 39.6% 25% 20% 13% rx2198/8964 m+1323/3570 n=375/945 flower (A, et al. ) rotal closes of and placese investig medicates for disbette miditure a paraset service differences mids, 1984 (man stat.) (1984 (m.) 1985 (d.)).

Induces modest Weight Loss in overweight and individuals

	Change from	% Decrease
	baseline	from baseline
Veight (kg)	- 3.3	4%
Body mass index (kg/m²)	- 1.2	4%
Total body fat (L)	- 2.8	9%
Total subcutaneous fat (L)	- 2.1	7%
Abdominal subcutaneous fat (L)	- 1.2	11%
/isceral fat (L)	- 0.6	15%
ean body mass	0	No change

Data are means. Duration of treatment: 6 months



# Dr. Zahid Miyan

was the other participant of this debate. Dr. Ali Raza was previously supposed to be the second debator, but he could not reach Karachi in time thus Dr. Zahid Miyan had to perform his job.

Dr. Zahid Miyan who is the current president of PCDA Pakistan started his talk with the new trends and approach that previously in 2008 it was said 2012 EASD/ADA vascular and renal complications of dia- al complications instead of merely lower- anti-diabetes medicine to be launched.

ing the HbA1c. Also to optimize the quality of life is now the new approach.

No doubt Metformin can reduce HbA1c by >1%. But is this enough? Surely NO. Absolutely NOT. This glucocentric approach can be termed as "Tunnel Vision" Now the time has been changed and now this glucocentric approach has evolved into Patient centered+problem oriented approach. The UKPDS and Acin the management of T2DM. He said cord trials clearly showed that intensive lowering of HbA1c could not reduce the about HbA1c that lower is better. Then macrovascular complications of diabetes guidelines e.g. AMI, Stroke etc.. In ACCORD trial changed the slogan and brought forward intese lowering of HbA1c resulted in the "Patient Centric Approach" Then in increasing the mortality in the partici-2019 the slogan changed to "Patient pants of the study. Thus only lowering Centric+ Problem Oriented Approach" HbA1c is not enough. Something more came in. Thanks to the ample data gath- has to be done. STENO2 study in 2008 ered in last ten years, about the cardio- proved that there must be a multifactoriapproach. Thus betes now approach has shifted to con- (Cardiovascular outcome trials) were trolling and reducing the CV and renal made mandatory in 2008 for any of the

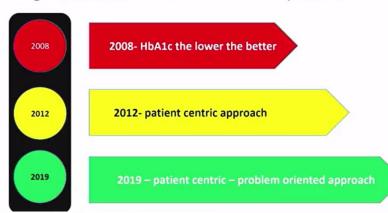
From TECOS to EMPAREG many trial have confirmed the safety of the Anti-diabetes medicines. In EMPAREG Outcome Trial not only safety but the benefits of the tial medicines were seen for the first time. This trial showed 38% reduction in cardiovascular mortality, 32% reduction in all cause mortality and 35% reduction in the hospitalization for heart failure. Not only this but EMPA-RENAL trial showed 35% reduction in the progression of nephropathy and 38% reduction in the onset of new microvascular.

Thus now the SGL2i have now proven their efficacy in terms of prevention from the fatal cardiovascular and renal complications of diabetes



# Some Slides from Dr. Zahid Miyan's Presentation

Management of Diabetes – development over Results

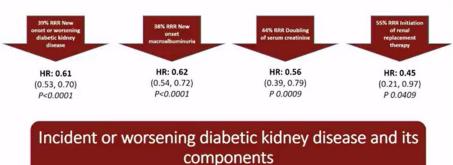


Trial / (enrolled)	Mean age / dis duration	Aic at entry	Aic C	Aic I	Micro	Macro	Severe Hypo
UKPDS (5,102)	53 New ∆	7.1%	7.9%	7.0%	✓	√+/-	I 1.8% C 0.7%
<b>ADVANCE</b> (11,140)	66 10 yrs	7.5%	7.3%	6.5%	√ Renal	×	I 0.7% C 0.4%
VADT (1,792)	60 11.5 yrs	9.4%	8.4%	6.9%	×	×	l ? C?
ACCORD (10.251)	62 10 yrs	8.1%	7.5%	6.4%	<b>√</b>	x x	I 3.1% C 1.0%

### EMPA-REG Renal Outcome



### **Quality and Translatability of CVOT Data**



EMPA-REG

• 7028 patients randomly assigned; 7020 treated<sup>[b]</sup>

• 9340 patients randomly assigned; 9340 treated<sup>[b]</sup>

• 9340 patients randomly assigned; 9340 treated<sup>[b]</sup>

• 5380 patients randomly assigned; 25 patients lost to follow-up<sup>[c]</sup>

SAVOR-TIMI 53

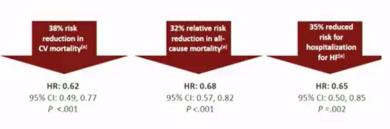
• 16,492 patients randomly assigned; final vital status assessed in 99.1% of patients<sup>[d]</sup>

• 14,671 patients treated; final vital status assessed in 97.5% of patients<sup>[d]</sup>

 Study population in these trials required specific entry criteri and one should be aware of how these translate to one's own patients
 ELIXA and SUSTAIN-6 have also been completed

ELIXA and SUSTAIN-6 have also been completed
 B, et al. N Engl J Med. 2015;373:2117-2128; b. Marso SP, et al. N Engl J Med. 2016

### **EMPA-REG OUTCOME**



Updated label: Empa is now indicated to reduce death from CV disease in patients with T2D.<sup>[b]</sup> Number needed to treat (NNT) to prevent one death across landmark trials in patients with high CV risk EMPA-REG Ramipril<sup>2</sup> Simvastatin<sup>1</sup> Empagliflozin for 5.4 years for 5 years for 3 years High CV risk High CV risk T2DM with high CV risk Pre-ACEi/ARB era >80% ACEI/ARB <29% statin Pre-statin era 1994 2000

December 2008 FDA Guidance on Evaluating CV Risk in New Antidiabetic Therapies for T2DM

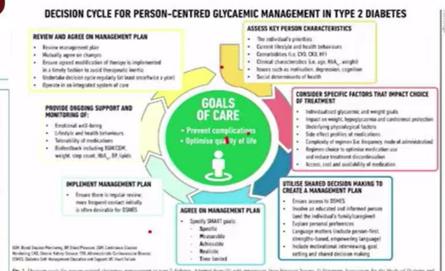
# Guidance for Industry

Diabetes Mellitus — Evaluating Cardiovascular Risk in New Antidiabetic Therapies to Treat Type 2 Diabetes OMMENDATIONS

To establish the safety of a new annikabetic therapy to treat type 2 disheres, spousars should demonstrate that the therapy will not revold as an unacceptable increase in conforwardar role. To assure that a new therapy does not increase conforwardar role to an unacceptable extent, the

For new classed studies in the planning stage

- Spressors should exable his independent cardies reacher and points constitute to prospectively adjustices, in a blanked forhoot conformation event during all plans and plans? Sinch. These returns bound include on demonation motivity, suppossible adjustices, and strake, and can include hospitalistics for some consury syndrome, sugars revendeductionism inconductives, and resolve for endocions.
- and conducted on that a marinestacyloic can be professioned at the time of completion of these valueds, that propospointly sources for improving to the dyings features and primate or shady level consenses. To altoin collicious molecules was allow a manuscipal contante of each, the place 2 and places programs whould anothely present sufficient manuscriptions of another values resents, such as protects with reliancing between finding persistent and primate with wome degree of most impromises. Because those you of protects we alsoly to be trained with this sandshirts again. If approved the proposition is more appropriet than a promage and healther population for necessional of other sequence of
- Spounder show should provide a personal deverbing the statistical methods for the
  proposed meto-analysis, including the embjoints that will be assessed. As this time, we
  believe or would be reasonable to include its a matis-markysis all plaudos-controlled visios,
  add-on trads (i.e., deep versus plaudos, each added to standard therapy); and active-



# Beyond Glycemic Control:

# Role of Semalgutide 1mg in Holistic Glycemic Management

By: Dr. Asma Ahmed

Dr. Asma Ahmed talked on the Role of Simaglutide in the management of T2DM. She said that CVOTs published in recent years have changed the treatment landscape of T2DM. The GLP1 RA reduces the risk of CV outcomes in patients with high CV risk. The current guidelines support the use of GLP-1 RAs in patients with T2D with CVD or high/very high CV risk.

listic approach and not merely the glucocentric approach while managing a person with T2DM. She said that 9 out of 10 people with T2D and established bo) also had significantly larger reduc-CVD have ASCVD. Over 80% of peotions in bodyweight during the 56 weeks ple with CHD live with overweight or of treatment, achieving 4.3 and 6.1 kg obesity.

effects, i.e.; ↑ Insulin secretion, ↓ Glucates. gon secretion, \( \) Glucose production, \( \) Gastric emptying, ↑ Satiety , ↓ Food in- SUSTAIN 1-5 and 7-11 efficacy and take, ↑ Beneficial effects on the CV sys- safety: tem and Low risk of hypoglycaemia. The SUSTAIN 2 findings show that the Consistent reductions in HbA1c, FPG control than the dipeptidyl peptidase-4 (<7.0%, inhibitor sitagliptin in patients achieving vs comparators. inadequate control with metformin, thiazolidinediones, or both.

Patients given once-weekly injections of the GLP-1 analog (plus daily oral placebo) also had significantly larger reductions in bodyweight during the 56 weeks Reduced systolic blood pressure and imof treatment, achieving 4.3 and 6.1 kg reductions with semaglutide 0.5 and 1.0 mg, respectively, compared with an average 1.9 kg reduction for those taking daily sitagliptin 100 mg (plus week- Overall safety profile consistent with ly placebo injection). Semaglutide thus seems to be a promising treatment option for people with type 2 diabetes. The SUSTAIN 2 findings show that the glucagon-like peptide (GLP)-1 semaglutide produces better glycemic control than the dipeptidyl peptidase-4

Dr. Asma Ahmed seconded Dr. Zahid inhibitor sitagliptin in patients achieving Miyan saying that there should be a ho- inadequate control with metformin, thiazolidinediones, or both.

Patients given once-weekly injections of the GLP-1 analog (plus daily oral placereductions with semaglutide 0.5 and 1.0 mg, respectively, compared with an GLP-1 RAs are glucose-lowering drugs average 1.9 kg reduction for those takthat stimulate GLP-1 receptors and in- ing daily sitagliptin 100 mg (plus weekcrease insulin secretion in a glucose- ly placebo injection). Semaglutide thus dependent mannerThe benefits of GLP-1 seems to be a promising treatment op-RAs are derived from their pleiotropic tion for participants with type 2 diabe-

glucagon-like peptide (GLP)-1 analog and/or PPG, and higher proportions of semaglutide produces better glycemic subjects achieving glycaemic targets  $\leq 6.5\%$ ) with semaglutide

> Consistent reductions in body weight and BMI, and higher proportions of subjects generally achieving weight-loss responses  $\geq 10\%$ ) (≥5%, with semaglutide vs comparators.

> provements in overall lipid profile and glucose metabolism parameters with semaglutide vs comparators.

GLP-1RA class. Similar rates of AEs and SAEs across treatment groups. Most frequent AEs with semaglutide were GI. analog Low rates of hypoglycaemia, unless the patient is on concomitant therapy with SU or insulin.



(London)

Assistant Professor & Consultant Endocrinologist (AKUH)

### **Effects on Blood Glucose:**

Reductions in HbA1c generally greater with semaglutide than comparators.

Semaglutide consistently reduced FPG and/or PPG across SUSTAIN 1-5 and 7–11, suggesting both contribute to significantly better glycaemic control vs comparators. Semaglutide consistently improved glycaemic control, regardless of baseline BMI, background treatment, age, baseline eGFR or pre-existing CKD and diabetes duration.

### **Benefit of semaglutide in CVD:**

OW semaglutide was shown to reduce CV risk vs. placebo in SUSTAIN 6.

26% risk reduction for 3-point MACE 39% risk reduction for non-fatal



# Few Slides from the presentation of Dr. Asma Ahmed

### Step-wise approach to T2D treatment



Atherosclerotic cardiovascular disease (ASCVD)



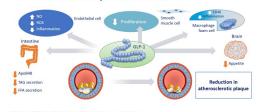
Multifactorial intervention reduces risk of complications in people with T2D



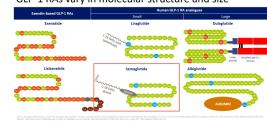
The benefits of GLP-1 RAs are derived from their pleiotropic effects



Anti-atherosclerotic potential of GLP-1



GLP-1 RAs vary in molecular structure and size







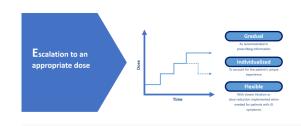


Safety and Tolerability of Semaglutide Across the Sustain Clinical Trial Programmes



### Adverse Events





### Summary



# **Experts Comments/Panel Discussion**

Starting commenting on the session, Prof. Shabeen Naz Masood first thanked PCDA for inviting her to the symposium. She then raised a question to the audience. Is the only cause of T2DM is a bad lifestyle, bad eating habit and lack of exercise etc or something beyond that? She recalled the term "Primordial Prevention" she heard for the first time from Dr. Asima Khan. She said since then she have worked a lot on it i.e, if fetal origin of adult disease is responsible for so much increase in diabetes and cardiometabolic disorders; and if it can be prevented. We should focus on the women health in our country and not merely wait for the complications to develop. She said there should be local data and guidelines instead of blindly following the guidelines coming from ADA or EASD. Because more than 85% of our women are anemic so we can not rely on the HbA1c to diagnose and monitor diabetes. She again emphasized on the need to develop our own guidelines; and for this we are in liaison with organizations like PCDA and PES. She informed that TOBBOGAN study is on the way which suggests screening for diabetes at the very first antenatal visit.

Responding to Prof. Shabeen's talk, Prf. Feroz Memon said that lifestyle modification is the most important part of the treatment of metabolic syndrome. Thus "Eat less and Walk more." This has proven its effect on cardiometabolic diseases, but we in our country eat more and walk less. Dr. Zahid Miyan has very rightly said that SGLT2i are not only drug for diabetes, but these are the drugs of cardiologist. The SGLT2i have saved uncountable lives of patients with CV & HF with or without DM.

In the beginning Prof. Zaman paid tribute to the world fame Dr. Samad Shera (late), the legend in the field of diabetes in Pakistan. The reason to recall him at this time was his punctuality and time management. He advised PCDA to follow Prf. Shera's teachings and run the sessions of this symposium according to the specified time.

Commenting on the Prof. Yaqoob Ahmadani's presentations he pointed out to the guidelines for the diabetic persons who fast during Ramzan. Some guidelines advise to break the fast if blood glucose goes above 300 or below 80. He said we should be realistic in this regard and individualize every patient and give advise realistically.

Commenting on Prof. Shebaz Qureshi's presentation he highlighted the recognition of all risk factors of metabolic syndrome. He expressed his concerns on Blood Pressure measuring techniques and devices and advised to standardize them.

On Dr. Aysha Sheikh's presentation he was of the opinion that when you address hyperglycemia in pregnancy you are actually saving two lives. Ignoring the control of blood sugar during pregnancy results in grave fetal and maternal complications and bad consequences. Metformin must be included in each every T2DM. Controlling blood sugar level be the prime objective of treatment of diabetes.

Professor Musarrat Riaz said that all the talks were very relevant. My fellow panelists have given very valuable comments, suggestions and thoughts on these talks. I endorse them all and because of the time constraints I'll not add more. Just thank you very much







Prof. Musarrat Riaz

Bilal Tahir

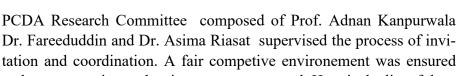
Aatik Arsh

Dr. Ejaz Anwar

# Poster Presentation in PCDA Symposium'24

Posters Presentation have always been a hallmark of all PCDA Biennial Conferences organized in the past 15 years. PCDA

has always encouraged young doctors and medical students through its research programs. Poster presentations play a crucial role in medical conferences by allowing researchers to share their findings in a visually appealing and interactive format. They provide an opportunity for attendees to discuss the research with the authors, fostering networking and collaboration within the medical community. Additionally, poster presentations offer a platform for researchers to receive feedback on their work and gain recognition for their contributions to the field.





and very attractive cash prizes were announced. Here is the list of the participants and the topics of their respective posters:

•	
NAME	TOPIC OF THE POSTER
Dr. Irfan Nasir	Frequency of Diabetes plus hypertension among patient with hypothyroidism presenting at a tertiary care center
Anum Naz	Integration of Mental Health in Diabetic Care: A Qualitative Study Pregnant Women With Diabetes, Perspective Regarding Medical Nu- trition
Shahreen Ansar Khan	Therapy; Are They Really Aware? Dietary intake of individuals with type 2 diabetes during Ramadan in accordance with
Shahreen Ansar Khan	Ramadan Nutrition Plan (RNP) – Diabetes and Ramadan (DaR) guidelines 2021
Dr. Ghazal Raza	Efficacy of Pitavastatin alone and in combination with Ezetimibe on lipid profile in type II diabetes patients on Biguanide therapy
Nida Afsheen	Behavioral Activation intervention for the people living with Diabetes and Depression: A comprehensive training for capacity enhancement of non-mental health professionals in Pakistan Frequency of microalbuminuria and its relation to HbA1C in type 2 Diabetes mellitus
Dr. Ayesha Sarfraz	patients.
Dr. Shizma Junejo	Clinical efficacy and safety of Metformin in Pre-Diabetes
	Comprehensive diabetes care implementation for individuals with

type 1 diabetes: a ten year follow-up study

Mellitus in Pakistan

tients of diabetes mellitus

Adaptation of an Integrated Behavioural Activation and Physical Activity Intervention for Women with Depression and Type 2 Diabetes

Awareness and understanding of diabetes complications among pa-

# Results of the Posters competition were announced during Session-III of day-2 in PCDA Symposium'24

Prof. Adnan Kanpurwala, Head of Research Committee of PCDA announced the results of the poster presentation on the recommendations by the jury composed of Prof. Shah Kamal, Prof Ashaar Fawwad, Dr. Umbreen Aslam, Dr. Nizam Darwesh, Dr. Fareeduddin, Dr. Sohail Shaukat and Mr. Umair.



The followion three presentations were declared the best and cash prize annonced.

Dr. Ejaz Anwar

Awareness and understanding of diabetes complications among patients of diabetes mellitus

Aatik Arsh

Adaptation of an Integrated Behavioural Activation and Physical Activity Intervention for Women with Depression and Type 2 Diabetes Mellitus in Pakistan

Pregnant Women With Diabetes, Perspective Shahreen Ansar Regarding Medical Nutrition Therapy; Are They Really Aware?

# Judges examining the posters in the Poster Arena









Yong Leaders STEPS Session: III-A

# Lecture-1: Advocating For Accessible And Equitable Diabetes Care

Ms. Sana Ajmal (Meethi Zindagi)

**Dr. Fariha Shakeel**, the moderator of this post-lunch session, introduced the panelists of the session; Prof Shah Kamal Hashmi, Asst Prof. Umbreen Aslam, Prof. Ashaar Fawwad and Asst Prof. Dr. Zeeshan Ali. She then invited Ms Sana Ajmal from NGO "Meeti Zindagi" to deliver her talk.



rector

Meethi Zindagi Pakistan &

the importance of things to be lence, organizations help with Responsibilities include helping done in time like managing the hypoglycemia of a type-1 person in time. She shared her own experience when she got late in having lunch because of the delay in the previous session.

she Defining Self-advocacy said when a person advocates for their own interests this is called self advocasy. By Individual advocacy we mean when a person (or group) focuses on the interests of one or a few individuals. It can be informal or formal. Formal individual advocacy often goes through organizations like government agen- the system. cies or nonprofits. When some-

Sana Aimal in the beginning emphasized on one is escaping domestic vioand more.

Systems advocacy is Seeks to issues. change things on a local, state, or national level through laws and/or policies. This kind of advocacy can be complex. Multiple organizations often work together to research, awareness, and pressure legislators.

Healthcare advocates, who are often engaged by healthcare systems or nonprofits, play an essential role in demystifying time, costs, regular availability,

shelter, medical care, mental with access to care, educating healthcare, financial assistance, patients, and helping with insurance, administrative, and legal

> Caregivers often educate themselves on the healthcare system and act as advocates for their family members or friends.

raise There are also healthcare advocacy groups that work for system-wide changes regarding healthcare access, funding, and more. Accessible Diabetes Care means Accessibility in terms of distances, etc.

Equitable Diabetes Care means Bridging the Gap Between the Haves & the Have-Nots. In fact People with Type 1 Diabetes in Pakistan lose life early because of lack of diagnosis lack of insulin. Of healthy life are lost per person with Type 1 Diabetes because of lack of adequate care and healthcare access inequalities.

People feel stressed, stigmatized or discriminated. There are insensitive prevention campaigns, lack of awareness, access, Equity, lack of empathy & understanding and language. She invited the audience to join her mission at Meethi Zindagi and help saving the precious lives of Type-1 children in Pakistan. Here are some slides from Ms. Sana Ajmal's presentation.









Session: III-A Yong Leaders STEPS

# **Empowering Tomorrow:**

# YOUTH LEADERSHIP IN DIABETES MANAGEMENT

Dr. Izhan Ali Khan (Head of STEP-PCDA)



In the beginning Dr. Izhan Ali Khan explained what he is going to talk, i.e. The Challenge of Diabetes In Pakistan, The SEARCH Study In US, Importance of Youth Leadership, How Leaders are made? About Student Taskforce for Education & Public Health, The Future Outlook; And Meet our team.

Referring the SEARCH for Diabetes in Youth Study, Dr. Izhan informed the audience that under the constant incidence scenario, it was assumed that the incidence rate of diabetes would remain unchanged from 2017 to 2060. Age-specific incidence rates from 2017 were applied uniformly across all years until 2060. Estimation of the 2017 incidence rate was based on Poisson regression models.

Talking about Increasing Incidence Scenario he said "In the increasing incidence scenario, trends observed in the incidence rate between 2002 and 2017 were projected to continue unchanged until 2060. The log-linear trend was extrapolated, predicting incidence from Poisson regression models for each year and age-sex-race and ethnicity combination."

A sensitivity analysis suggests that attenuating increasing trends in incidence by 2% annually could significantly reduce the projected burden of type 2 diabetes in youth. Evidence on the prevention of type 2 diabetes in youth is scarce, and additional research is needed to determine effective strategies. Interventions targeting social determinants of health, such as built environment and obesogenic food environments, may help reduce racial and ethnic disparities in youth-onset type 2 diabetes.

# LEADERSHIP:

solutions are not only relevant but also who need it most. sustainable, considering the long-term impact on the future of healthcare.

proaches to diabetes prevention, man-vention and management efforts.

THE IMPORTANCE OF YOUTH agement, and awareness campaigns. Uti- WHO ARE LEADERS: lizing Technological Proficiency. Leveraging their proficiency with technology Leaders are individuals who inspire and Empowerment for Effective Solutions. and social media, youth can reach and influence others to achieve common Empowering young individuals is cru- engage diverse communities more effec- goals or objectives. They can be found cial in tackling diabetes challenges ef- tively. This enables the dissemination of in various settings, including business, fectively. Their involvement ensures that vital information and resources to those politics,

Ownership and Responsibility. Involv- Leaders often possess qualities such as modern technology offer novel ap- ages active participation in diabetes pre- tive change.

community organizations, sports teams, and more.

ing youth in leadership roles fosters a vision, integrity, empathy, resilience, Fresh Perspectives and Innovation. sense of ownership and responsibility and the ability to communicate effec-Youth bring valuable fresh perspectives for their health and that of their peers. tively. They provide guidance, direction, and innovative ideas to the table. Their This cultivates a proactive approach to- and support to their team or followers, unique outlook and familiarity with wards healthier lifestyles and encour- driving them towards success and posi-



Dr. Fariha Shakeel Moderator of the Session

# Panelists of the Session:

Dr. Umbreen Aslam

Prof. Shah Kamal

Prof. Ashaar Fawwad

Asst. Prof. Zeeshan Ali

### **How Leaders Are Made?**

Replying to this question Dr. Izhan replied that leaders are made by Education and Training, Mentorship, Responsibility Opportunities, Feedback and Reflection, Promoting Collaboration, Encouraging Innovation, Recognition and Empowerment and Continuous Learning.

grams focusing on leadership skills, tion. pairing with experienced mentors for guidance, leadership roles within teams Diabetes Awareness Walk: or projects, learning from experiences, both successes, and failures, valuing teamwork and interpersonal skills, allowing creative thinking and risk-taking, acknowledging and empowering leadership qualities and lifelong learning and skill refinement support.

### STEP (Students Taskforce for Education and Public Health) by PCDA:

Started in 2020 now have more than 100 members from 10 universities nationwide. Till now STEP have organized more than 125 Diabetes Screening Camps provide accessible and free screenings for diabetes, offering vital tests and consultations to detect and manage the condition early, fostering a healthier community. These include 25 major camps and 100 minor camps

which entertained more than 10,000 persons. 81.6% of these were found to be STEP's forthcoming programs non-diabetic, 15% Pre-diabetic and and plans: 3.4% newly diagnosed diabetic.

### **Diabetes Day Drive:**

A yearly screening drive held on Shahra- Strengthen collaboration with Healthe-Faisal on World Diabetes Day, offer- Care Providers, ing free screenings and information to Advocacy for policy changes at the This can be achieved by formal pro- promote diabetes awareness and preven- local, state, and national levels to im-

A community event aimed at raising awareness about diabetes through a walking activity.

### **Diabetes Preceptorship Program:**

The Diabetes Preceptorship Program is a month-long online webinar series for students, providing expert lectures on diabetes management to prepare future healthcare professionals.

### **Research and Publications:**

Many TEP members have till now authored and co-authored research papers have been published in renowned medical journals.

Also STEP members constantly contribute articles in the official newsletter of PCDA Pakistan "Prevention First Newsletter"

School Health Program,

Rural Diabetes Health Awareness and Screening Campaign,

prove access to healthy foods, promote physical activity, and support diabetes prevention efforts in schools and communities.

Diabetes Preceptorship Program.

University collaborations for research projects and grants.

International collaborations

Dr. Izhan concluded his talk on a saying by MARTIN LUTHER KING JR. CIVIL RIGHTS ACTIVIST who once said

"A genuine leader is not a searcher for consensus but a molder of consensus."

Session: III-A

# Over and above HbA1c, TIR (Time-in-Range) and Interpretation of CGM (Continuous Glucose Monitoring)

# By. Dr. Faisal Ozair



Dr Faisal Ozair

Consultant Endocrinologist & Diabetes.

(European Board certified, MRCP, CCST) University Hospital Birmingham, UK

Ozair has always been attending the states of blood sugars. CGM Provides PCDA Symposia many times. His way more information than HBA1c & talk was scheduled in Session-2 but your Glucose meter. It provides conhe sacrificed his timeslot for other tinuous glucose data., support your their flights. The outline of his talk Medication and dosing), glucose trend was "Introducing CGM, What im- arrows, alert/alarm high and low pacts blood sugars, What the numbers blood gloose levels and reading sharmean, Challenges and solutions to ing with family, friends or physician. CGM."

tured!

CGM gives you 288 readings per day, 2,016 per week, 2,032 per 14 days CGM in Type1 DM results in reducand 8,640 per month. How to make tion in hypoglycaemia and well consense and use of the data. Thus if trolled Diabetes. (IMPACT) comparing CGM to SMBG you have 288 daily data points verses 2-4 daily data points. Many undetected Hypoglycaemias and many undetected Hyperglycaemias can be detected by CGM in T1DM results in change in CGM which are missed by SMBG.

Time-In-Range (TIR) is different from HbA1c. As 7% HbA1c may be

From Birmingham UK, Dr. Faisal found with many high variability speakers who were in hurry to catch decision making (Diet, Exercise,

Continuous glucose monitoring result By CGM you get 1440 minutes per in reduction in HBA1C, Improved day with fluctuating glucose. Check- percentage of Time in range (TIR), ing glucose 6x daily via glucose me- defined as 70 - 180 mg/dl, Lower risk ter, only 0.4% of the day is being cap- of hypoglycaemia, High pataient satisfaction and Lower risk of diabetes related hospitalization.

CGM in T1DM results in change in HBA1c with inadequate glycaemic control. (DIAMOND).

HBA1c with inadequate glycaemic control; Cross over trial. (GOLD STUDY).



**Parts of CGM:** Components are Sensor, Transmitter and Receiver. Typically worn on the back of the arm or abdomen. Worn 7-14 days depending on the device. Some can replace finger sticks for treatment decision.

Some popular brands are Libre-2, Freestyle Libre-14 days, Medtronic Guardian Connect, Dexcom G6 and Senseonics Eversense.

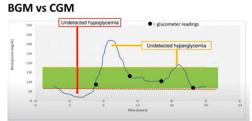
### How are TIR and HbA1c related?

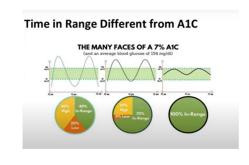
TIR 70% = HbA1c 7%

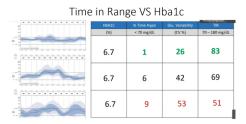
TIR 50% = HbA1c 8%

Dr. Faisal Ozair concluded his talk by emphasizing on the use of modern gadgets like CGM to have optimal control of blood sugar specially in T1DM. Here are some slides from his presentation:

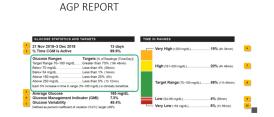




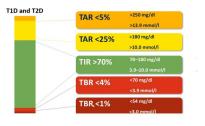




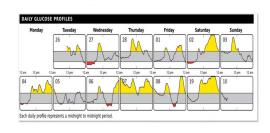


















ADA and the International Consensus on Time-in-Ranfe (TIR) recommend reducing glyemic varibility and optimizing TIR as key aspect of effective diabetes management in people with T1DM and T2DM<sup>2,3</sup>



### Conclusion

- Use of CGM IN T1DM:
- $\bullet$  In those with good glycaemic control( low HBA1c ), CGM reduces hypoglycaemic exposure.
- In those with inadequate control, CGM reduces HBA1c.
- The observed changes in hypoglycaemia & HBA1c are clinically significant.

# Fueling Your Health:

# The Power of Nutrition through life style modification in diabetes management Fayza Khan

Ms. Fayza Khan is a famous dietician and nutritionist. She is the general secretary of Pakistan Nutrition and Dietetic Society of Pakistan. She talked on the role of diet in the pathogenesis and management of diabetes. In the beginning she presented data about this diet related NCD (Non Communicable Disease). She said that 6/10 deaths are contributed by Non communica-



ble Diseases. Also Pakistan is on rank 3rd in the prevalence of diabetes following China and India, and in 2022, 26.7% of adults in Pakistan are affected by diabetes (IDF) making the total number of cases approximately 33 million. About obesity she said that the leading risk factors for premature death related to cardiovascular disease (CVD), type 2 diabetes, cancer and poor mental health. More than 4/10 are overweight or obese in Pakistan. According to a sub analysis on National Diabetes Survey 2016-17, generalized obesity is 58% and central obesity 73%. The prevalence of overweight among children under §five has almost doubled from 2011 to 2018.

ty, over weight obesity, unhealthy die- mobile-based tary intake, poor dietary habits have re- (combined with in-person Educational sulted in a surge in NCDs in Pakistan & counselling). demands urgent public health interven-

ments in blood pressure and lipid profile tic/S.M.A.R.T other systematic review, combined inter- T:timely). ventions were effective in improving reported improvements in diabetes & cardiometabolic risk factors (reducing cholesterol levels, blood weight, and glucose levels.

Characteristics of effective lifestyle interventions are healthy adults or adults at high risk for cardio-metabolic disease include the promotion of and physical activity, the use of behaviour change techniques, self-monitoring, social support, stimulus, control, goal setting, problem solving, self-assertion and relapse prevention. Delivery by health professionals (specifically RDNS/ dietitians), maximum in-person or group contacts, the use of well-established diabetes or obesity prevention programs or

Increasing trends of low physical activi- guidelines and the use of Internet- and The Finnish Diabetes dietary interventions Study:

### **DIETARY** RECOMMENDATIONS IN DIABETES:

pressure, There is no single diet recommendation those following a Med diet style plan. prescribed for type 2 diabetes. Mediterranean diet (Med diet), DASH diet, and vegan and vegetarian diet are all recommended by the ADA. Currently, one of the most researched is the Med diet, which has shown to improve blood glucose (BG) control and reduce risk factors associated with CVD •The Med diet promotes a number of high-fiber Like the Med diet, this plan encourages including from dairy, eggs, and red meat.

# **Prevention**

This study evaluated 522 middle-aged, nondiabetic overweight subjects, and the Support & Dietary Counseling: Focus on Diabetes Prevention Program study, overall diet rather than on specific foods, which included 3,234 nondiabetic partic-Evidence from systematic reviews ex- Individualized counseling; culture, reli- ipants, used a Med diet intervention. amining the efficacy of lifestyle inter- gion, occupation, living condition/socio- Both efforts found a better than 50% reventions reported that combined Inter- economic status, Identification of risk duced risk for type 2 diabetes. A large ventions involving diet and physical ac- factors & root causes, Healthy Cooking clinical trial in 2020, the PREDIMED tivity were associated with improve- Skills/Shopping Skills, Setting up realis- study, found a 52% reduction in risk for Goals=S:specific developing diabetes among more than over dietary interventions alone. In an- M:measurable A:achievable R:relevant 3,500 elderly patients who were at high risk for CVD. Another recent large study of over 2,500 diabetic participants in Italy found improved BG control and a decrease in CVD risk factors among

> This study specifically highlighted the role of high-fiber foods and good fats as key contributors. Another recommended diet is the DASH diet, which was originally developed as a stand-alone plan to reduce blood pressure without the use of medications.

fruits, vegetables, the consumption of fruits, vegetables, whole grains, nuts, seeds, and legumes. whole grains, legumes, nuts, and seeds, Olive oil, fish, and nuts are the main fats as well as low-fat dairy, lean meats, and encouraged, with moderate fat intake fish. It limits saturated fats, sugar, and high-sodium processed foods.



Evidence still supports the reduc- function, all of which support diation in Saturated Fat in the man-betes management & BG control. agement of Type 2 diabetes. Fats In addition, when saturated fat classified as healthy, primarily intake is replaced by carbohymonounsaturated (MUFA) and drates (wholegrain and unrefined polyunsaturated (PUFA) fats, are only), there is evidence for cardioknown to improve markers in vascular benefit. However, replacheart health and may also be pro- ing saturated fats with refined cartective for type 2 diabetes. bohydrates, such as sugary drinks Healthy fats have important roles and white bread, appears to inin reducing inflammation, increas- crease cardiovascular risk. ing satiety, and improving insulin

### Low Carbohydrate diets:

(50-130 gms) are not recom- Fair mended for everyone. Lower carb diets as a short-term effective option for adults with type 2 diabetes with obesity with weight loss, glucose management and reduce the risk factors associated with CVD.

They can help with weight loss, glucose management and reduce the risk factors associated with CVD. There is no consistent evidence that a low carb diet is any more effective than other approaches in the long term.

### **Individualized approach:**

of macronutrient distribution. Lower GI carbohydrates and limiting SSBs and added sug-

### Evidence Summary on Fi-

### ber Intake:

evidence from 2021 systematic review of 22 production of SCFAs RCTs (n=911) identified that proves or overweight. They can help dietary fibre (natural food biome, therefore, is another diabetes care, and should insoluble fibre) for a median risk factors. duration of eight weeks reduced A1C (WMD=-0.66%) **FBG** (WMD = -0.80)mmol/L) in adults T2DM. Fiber has also been shown to improve postprandial BG and increase satiety. Fiber is also postulated to support BG management by There is no ideal proportion increasing the production of short-chain fatty acids (SCFAs), known to increase the expression of certain genes linked to increased in- Too often missing: Making

sulin production and satiety.

a There is also evidence that the cholesterol a median increase of 10 g/day els. Modulating the gut micro- support must be a part of all sources of soluble and insolu- way a high-fiber diet may re- clude information, education, ble fibre and supplemented duce BG and improve CVD and peer support.

> was primarily linked to fiber treated only when detected. from food sources, not sup- A collaborative care approach plemental, supplemental fiber could be used as necessary to ensure adequate intake.

# emotional and psychological support routine in diabetes

lev- Emotional and psychological

Overall evidence suggest that High-fiber diets improved emotional and psychological glycaemic control, reduced support should be included as total cholesterol, LDL, tri- a part of ongoing comprehenglycerides, and body weight sive carefor all patients with regardless of the type of fiber. diabetes and not addressed as A reduction in all-cause mor- a separate co-morbid conditality was also observed but tion that is diagnosed and

> can improve physical outcomes as well as well being and overall quality of life.

NON-NUTRITIVE SWEETENERS	SWEETENING POWER	CHARACTERISTICS:
1. Sucralose (Splenda®)	600 times sweeter than sucrose	Heat stable
2. Saccharine (Sugar Twin®)	200 to 700 times sweeter	A cancer-related warning label was removed in 2000
3. Acesulfame K (Sunette)	200 times sweeter	Bitter aftertaste
4. Neotame (derivative of the dipeptide phenylalanine and aspartic acid)	7,000-13,000 times sweeter	Does not have a significant effect on fasting glucose or insulin levels
5. Aspartame (Equal®/ Canderel)	200 times sweeter	200 studies concluded no safety issues leading to increased risk of cancer, gene or neurologic damage.
6. Stevia (Truvia®)	intensely sweet taste.	Minimal effects on blood glucose, insulin, blood pressure or weight.
7. Luo han guo (monk fruit)	150-300 times sweeter	May have an aftertaste at high levels.

Session-III

# Diabetes Education: What we can replicate in Pakistan

# Ms. Erum Ghafoor

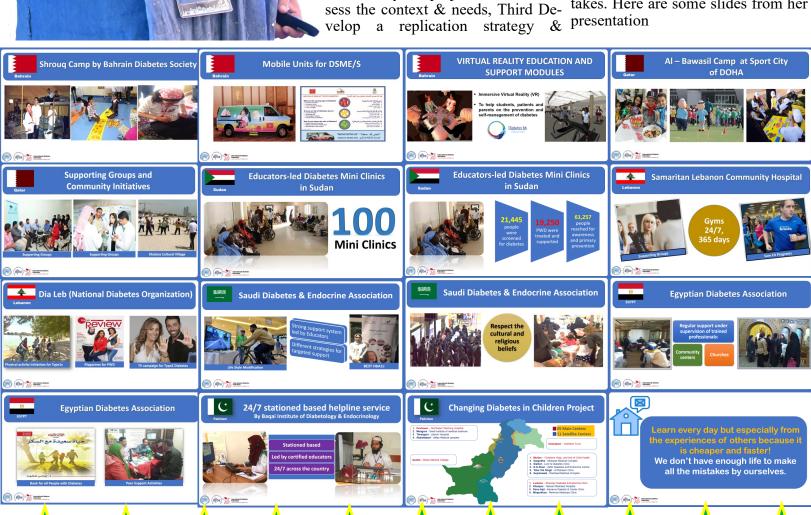
CDE (Canada), MPH (England), is the président of National Association of Diabetes Educators of Pakistan, Faculty member of Baqai Institute of Diabetology & Endocrinology, Faculty member of International Diabetes Federation (IDF) and Manager Pakistan of Changing Diabetes in Children-Global Project.

> Ms. thanked PCDA to invite her to talk to the attendees of this great symposium. She said that the projects about diabetes education proven suc- Erum Ghafoor talked about many cessful in India, Bangladesh and other neighbouring countries may be in various countries of MENA resuccessful here too. I said « May be » because support for the projects UAE, Saudi Arabia, Oman, Lebamay be different here.

Thus if you want to replicate a plan or a strategy you need to follow six steps. First Identify the core elements of your project, second Asvelop a replication strategy

Ghafoor first toolkit, fourth Test & refine replication strategy, fifth Communicate & disseminate your strategy; and sixth Support & learn from initiators.

> projects of Diabetes Education run gion ver successfully. These inclde non, Egypt, Jordon, Moroco, Iraq etc. She said that we will have to make our own plans and projects. It would be wiser not to keep on doing mistakes but learn from other's mistakes. Here are some slides from her



# Story of a Type-1 Champion

An exclusive story of a type-1 Champion Miss Samar Zia thrilled and motivated nearly everyone in the lecture hall. Miss Samar Zia is a person with Typ-1 Diabetes who fought with the physical, physiological, psychological, social, communal, financial and all sort of other issues associated with her condition, so bravely, courageously and heroically that she became a role model for other people with same

condition. She is very rightly titled as "Type-1 Champion."



Zia narrated her Samar story in the "Yong Leaders" session of 8th. International PCDA Symposium 2024 held in Hotel Movenpick on 17&18 Feb'24. moderator Dr. Fariha Shakeel, most of the audience didn't know who she is. She starte her story with her introduction. Listen what she says.

"DIAVERSARY." You must be insulin shots till now.

thinking that what was the reason behind celebrating the anniversary of diabetes. In fact it is not a celebration of winning the hyper and hypos but it's the anniversary of winning the battle of life, When her name was called by with courage and consistency. I remember the day the daiagnosis of diabetes, I remember I was shifted to the ER of the children ward as I was in DKA. At that time I was not mature enough to understand the condition but I am Samar Zia and I have gradually I learnt to live with the done masters in economics. First condition. Since then I have been of all I will pay my thanks to the fighting with the condition by organizers who gave me the those NEEDLES to which I was chance to share my story with scared of, instead these are now you. I was diagnosed as a case of the PILLARS OF LIFE for me. Type-1 diabetes in 2002 and re- You will be surprizes to know cently I celebrated my 21st that I have injected about 18,986

And there were complex fingerpricks, hypers, downs of diabetes treatment without telling othhypos with which I passed through countless er people. And now when I tell other about my sleepless nights. Most of you cannt imagine condition, I get so many lessons. But taking how much I struggled. Me and my family won- back a review of DIAVERSARY, the other side der how I fought with this chronic illness with of the story reminds me a person who is my so many issues including lack of awareness, our doctot, well wisher and the SUPER HERO of colleagues behavior, my OCD and having a dif- my story. He is none other than Dr. Zahid Miferent family many issues. So being alive is a yan, who supported me emotionally and psymiracle in my eyes. I didn't imagine that I'll chologically at that critical time. He treated me reach so far. I didn't disclose about my condi- like her daughter. He made me able to fight wth tion to my relatives my friends and my teachers the condition and to learn how to live with it." for many years. In fact I faced all the ups and



Miyan. "His those magical words—She can do Anything—helped me to continue my education, because I didn't have much family support, and I developed obsessive compulsive disorder (OCD) in 2009. Despite of all these I got first position in M.A Economics, proving his words that I can do everything. I've no words to thank him. His words always gave me energy, power and courage.

As far as the life with diabetes is concerned, I am not till now tired of diabetes. Everyday I have to face so many issues about diabetes but everyday it is making me stronger. Diabetes gave me discipline, sagacity and resilience. I realize that everything is temporary in this world, even life is temporary. Havin diabetes does not mean that it's the end of life. Or yoy have committed any crime. Any difficulty is either to make us or break us. It depend on us wether you become VICTIM

Samar Zia further said about Dr. Zahid of VICTORIOUS. The challenge for me was to fight with diabetes and OCD simultaneously. AlHamdo Lillah I got control of both. So you know what I learnt that whenever we have any physical or psychological issue, we have to control it not only physically and psychologically, but also socially and economically. You may have apprehensions about the consequences of the condition. Whenever you tell someone about your condition they start comparing their pain with your pain and consider their pain in greater. Some will judge you, some will criticize you and some will disbelieve you. There are a lot of economical aspects as far as medical expenses are concerned they are high. Medicines are expensive in our country. Similarly how emotionally we face it. Sometimes we feel shattered and broken, no matter what we feel inside. Actual medial condition do not harm much as the emotional and psychological do. In fact this is the worst painful aspect





of any chronic condition like diabetes. I am not ashamed of my disorder. I know my journey is difficult to continue but I trust Allah who does not burden anyone more than the capacity he bears. The greater the trial the greater the reward. I am optimistic about my life and very grateful to my Allah that who kept me safe from so many complications of diabetes. I hope for good. Once again I thank Dr. Zahid Miyan for his support and care. I want to thank my parents sisters and teachers. Also thanks to all BIDE team including Miss Irum Ghafoor who is my diabetes educator. Thanks to Huma and Raheela who enlighten me in the darkness. Thanks to IML project of BIDE. I will end my talk with my favorite quote "It is better to light a candle than to curse the darkness. Allah Hafiz"











# PANEL DISCUSSION

"First of all thanks PCDA. Sana Ajmal's talk spoke about all 4 components of service delivery i.e, availability, acceptability, affordability and accessibility. Dr. Izhan is right in saying that young should come forward. Recently Dr. D.S. Akram has developed a module and taken many universities on board. PCDA must follow this model. Miss. Samar's presentation was very inspirational, and she must be proud of it that she can inspire so many people by her talks. I admire the efforts made by PCDA and specially the leaders like Dr. Fareeduddin and Dr. Riasat. They are really doing unmatched work in primary care. The tertiary care institutions get popular early but working in primary care is really challenging and very difficult. I assure PCDA my utmost support and cooperation in all their projects. May Allah always give you great successes, Ameen!"

"I'm thankful to the organizers of the symposium and PCDA Pakistan for inviting me. To begin with, about the talk by Miss Sana Ajmal and Irum Ghafoor. Meethi Zindagi is doing excellent job for Type-1 people who are mostly in a productive age group. About Dr. Faisal Ozair's talk on TIR, I'll say, its more important that HbA1c. About Dr. Izhan, I'm impreesed by him that even in the start of his professional age he shown and proved his dedication and devotion with the medical profession and his efforts in medical research are surprising. He was seeking existing work on young Type1 patients in Pakistan. Yes we have done this, in Balouchistan and other parts of the country. Izhan can go through this study and proceed. About Irum Ghafoor, yes yes belongs to my institution and she always impresses us with her wonderful skills of communication. In fact the work speaks by itself. We can get inspiration from her work. About Miss Faiza Khans talk on lifestyle modification & diet, I must say the idea of individualized dietary advice has proven its worth and it has been adapted BIDE, NIDE and other institutions in the past and proven its worth. By this I finish and again say THANK YOU PCDA"

Thank you PCDA for inviting me to be the panelist of this great symposium. Two year back in PCDA Symposium I was astonished to see the horrifying figures about diabetes in young. Dr. Izhan has today again presented the ground realities. I fully support his sentiments about young leaders. Youth must come forward and take charge of these plans and projects. They are more energetic, more oriented in the modern environment and more enthusiastic in their tasks. We are with you. PCDA is my own association and I feel proud to be the part of this symposium. About CGM, as said by Dr. Faiasl Ozair, I must say that it is the need of time. We all should use them and try to save more lives by keepin eye on blood glucose variability specially in Type1 people.

I pay my special thanks to PCDA Pakistan for inviting me to this great symposium. I'm myself a part of this esteemed association and invite other healthcare professionals especially working for the people with diabetes in primary care to join PCDA. It's a wonderful platform for learning ang keepin you updated in the field of diabetes. About the presentations by all the speakers, I must say that these were all stat of the art talks. And we learned a lot through these. Once again I'm grateful to the organizers for giving me an opportunity to be a panelist of this grat symposium"





# Role of Micronutrients in the wellbeing of patients with Diabetes

Dr. Nadeem Naeem



DR NADEEM NAEEM FCPS (Medicine), FCPS (Diabetes & Endocrinology), MRCP-UK(SC-Diabetes and Endocrinology), Consultant and HOD Diabetes and Endocrinology at MMIH, Karachi. Medical Educationist Executive member, PES

Other proposed mechanism include improving insulin action by stimulating expression of the insulin receptor, enhancing insulin responsiveness for glucose transport, improving systemic inflammation by a direct effect on cytokines.

diabetes by approximately 30 with the highest versus lowpercent. Hypponen et al. con- est category of 25[OH]D lev-

talk with a clinical case of a A 58 year old widowed woman with type 2 DM controlled with diet, Sitagliptin and Metformin. Glycemic control: good (HbA1c: 6.4%) Current complaints: Numbness and pain in distal parts of calves & feet. Pain gets worst at night. Pain score on analog scale: 7/10 during the day (ranging from 5 to 8/10) and 9/10 at night (ranging from 7 to 10/10). Nature of pain: Pain felt as her feet were "burning on hot concrete", and jabbing pins & needles. Sometimes (VDR) is nearly universally expressed in the pain felt like electric shocks & tin-nucleated cells. Approximately 3 percent gling. Dr. Nadeem Naeem then started of the human genome is under the control interacting with the audience and dis- of 1,25-dihydroxyvitamin D. ØD-VDR cussed about the diagnosis and manage- system resembles that of other ligands of ment of this lady wih Vit-B12 deficiency. nuclear receptors, such as thyroid hor-He said actually his objective is to identi- mone. Calcium is an Integral part of most fy the clinical features of various micro- of the second messenger system. Evidence nutrient (vitamins and minerals) deficien- indicates that vitamin D treatment imcies in patients with Diabetes and manage proves glucose tolerance, Insulin Secrethe micronutrient deficiencies in patients tion and insulin resistance. Vitamin D with Diabetes.

the levels of micronutrients. minerals, vitamins (Micronutrients) that play an im- Secretion. portant role in the management of Diabe-

For type 1 diabetes, the link were 80% less likely to de- D levels, glucose homeostais largely mediated by the velop type I diabetes. A me- sis, and the evolution of diaeffects of vitamin D on the ta-analysis of 21 prospective betes. A large genetic study immune system. Several ob- studies showed an inverse of more than 40,000 individservational studies, mainly relationship between circu- uals showed that higher body case-control studies, showed lating 25(OH)D levels and mass index (BMI; and the that vitamin D supplementa- the risk of type 2 diabetes genes that predispose for tion in early infancy reduced (relative risk [RR] 0.62, 95% obesity) decreases serum 25 the subsequent risk of type 1 CI 0.54-0.70, for patients (OH)D levels.

ducted a cohort study in el. The (NHANES) III study be prevalent in people with vitamin D supplementation (OH)D and diabetes preva- creases insulin sensitivity. dose and presence of sus-lence. The NHANES group pected rickets as it related to (2003-2006) evaluated 9,773 the development of type 1 U.S. adults > 18 years of age diabetes. children who took and showed a mechanistic 2,000 IU of vitamin D daily link between serum vitamin

Dr. Nadeem Naeem started his tes. Minerals, vitamins (Micronutrients) play an important role in the management of Diabetes. Correlation Between Micronutrient Deficiency & Insulin Resistance. Global estimates of the prevalence of Vitamin D deficiency 25(OH)D levels (or ng/ml) have been reported as 24% (US), 37% (Canada), and 40% 57% of women and 53.5% of overall population has vitamin D deficiency, 31.2% has insufficient vitamin D, and only 15.3% normal vitamin D.

contributes to normalization of extracellu-He said that diabetes mellitus may alter lar calcium, ensuring normal calcium flux through cell membranes, hence Insulin

northern Finland. They col-demonstrated that there is a Type 2 diabetes. Chromium lected data during 1 year on strong inverse association increases insulin binding to 10,821 children regarding between low levels of 25 cells. Chromium also in-

> Dr. Nadeem Naeem then presented another clinical case of a 39 year old businessman diagnosed with type 2 Diabetes 3 months back, presents in your OPD. HbA1c: 9.1 which was 13.5 at diagnosis. He went to some local Hakeem and he asked him to take specific vegetables and spices and didn't give him any medicine. Dr. Nadeem asked the audience "What are your thoughts about it?"

After discussing the diagnosis and treatment options in this clinical case, he continued talking about other micronutrients. About Alpha Lipoic Acid (ALA) he said that ALA is an antioxidant and anti-inflammatory agent and a co-factor. Landmark trials for ALA have analyzed and reviewed its supporting role. "Alpha Lipoic Acid and diabetes mellitus: potential effects on peripheral neuropathy and different metabolic parameters" •A prospective study to gauge the effect of oral ALA on DPN, glycemic control, LDL-C, and HDL-C. Results: Significant improvement of nerve conduction velocity and HbA1c improved significantly after the intervention Oral supplements of ALA improved peripheral neuropathy, glycemic control, and LDL-C

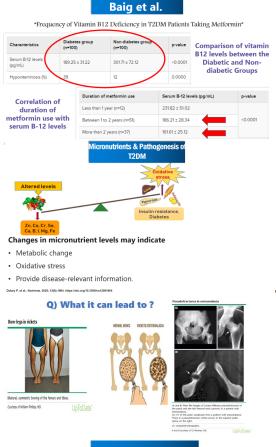
& HDL-C levels in diabetic patients.

Talking about beta glucan he informed the audience that it is Specific form of soluble dietary fiber. It slows the passage of food & absorption of sugar. It reduces the absorption of cholesterol and 2.5-3.5 grams of beta glucan reduces His key message was that about 1/7th of

ties. About bitter cucumber he told that about 2,000 mg daily dose of bitter melon significantly reduced blood glucose levels. Also bitter melon increased cellular uptake of glucose and improved glucose tolerance.

FPG & improves long-term blood sugar the global population is affected by miregulation. Talking about G. sylvestre, cronutrient deficiency. Boron, calcium, he informed that it increases insulin pro- cobalt, chromium, iodine, iron, magnesiduction. Lowers the amount of sugar um, selenium, copper, and zinc play vithat gets absorbed in the intestines. tal role in the prevention and manage-About turmeric root he informed that ment of Diabetes. Alpha Lipoic Acid Curcumin can decrease the level of glu- can improve Metabolic Parameters. cose in blood. It May have a role in dia- Chronic metformin therapy can cause betes prevention, could help stabilize vitamin B12 deficiency and neuropathy. blood sugar levels and has antioxidant, Phytochemicals can have role in Managantidiabetic, hepato-protective proper- ing Diabetes, proven by strong data.

Micronutrien



**Chromium and Diabetes** 

Cr & INSULIN ACTION

PHA SUBUNIT

CELL MEMBRAN

Cr INHIBITS PROTEIN TYROSINE PIAS

INSULIN

ATES RECEPTOR KINASE

➤ Low Chromium levels might be prevalent in people with Type 2

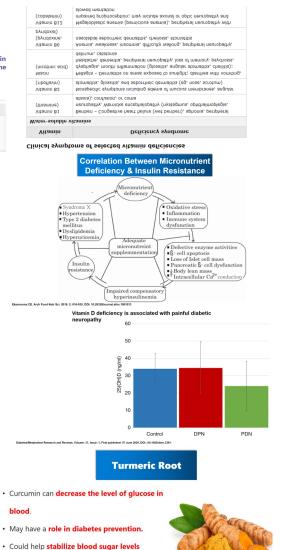
diabetes.(1)

sensitivity

>Chromium increases

Chromium also increases insulin

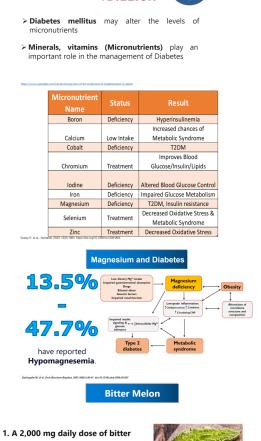
insulin binding to



Has Antioxidant, antidiabetic, hepatoprotective

properties

Dong-wei Zhang, Min Fu, Si-Hua Gao, Jun-



melon significantly reduced blood

2. Bitter melon increased cellular

uptake of glucose and improved

glucose tolerance.

WHO Monographs of

# Session IV—- NEW DEVELOPMENT & RESEARCH



Dr. Asima Khan, Vice President of PCDA Pakistan moderated the fourth and final session of the PCDA Symposium marathon.

Because of the time constrains only two presentations were included in this session, one by Asst. Prof. Zeeshan Ali on steatotic liver disease, and the other by Dr. Zahid Miyan on once daily trelagliptin.

The panelists for the session were **Prof. Kareem Qamaruddin**, head of medicine Baqai Medical University & Cochairman of curriculum committee; **Dr. Sajid Abbas** Head of medical department Baharia university and NMC University; And **Dr. Nizam Muhammed Darwesh** Associate Prof. Khyber Medical college, Head of Pabbi chapter of PCDA Pakistan.



# Steatotic Liver Disease; Upcoming Health Care Storm

By: Asst. Prof. Dr. Zeeshan Ali



DR ZEESHAN ALI JUNEJO MBBS, MCPS, FCPS (MED)

ASSOCIATE PROFEESOR OF MEDICINE JINNAH POSTRADUATE MEDICAL CENTRE JINNAH SINDH MEDICAL UNIVERSITY HEAD OF MEDICAL UNIT IV WARD-23 & MEDICAL INTENSSIVE CARE JPMC.

Senior Vice President Pakistan Society of Hepatology Member Asia Pacific Association of Liver Diseases Member American Gastroenterology Association Member American College of Gastroenterology Member American College of Physicians

American Association Clinical tes Association (ADA) have tors mentioned in Table 1. menclature implements the tis (MASH). following:

- Steatotic liver disease (SLD) is a broad term which incorporates hepatic steatosis seen on any imaging study of the liver regardless of cause.
- · Any SLD based on any im-

of aging may be positively diag- or Alcoholic Liver Disease including steatosis with at Endocrinologists nosed MASLD if any of the (ALD) with metabolic risk least one of the cardio-(AACE) & American Diabe- five cardio-metabolic risk fac- factors.

- ture. We are adopting the new placed by Metabolic Dysfunc- ters will be labelled as having tive appraisal to the new noterminology. The new no- tion-associated Steatohepati- single aetiology or cryptogen- menclature of NAFLD to
  - old range (Figure-1) will now encompasses holic liver disease (MetALD) etiology is heterogeneous,

proposed the new nomencla- • The term NASH will be re- identified metabolic parame- gy (PSH) have given a posiic. For better patient vantage SLD. • Those patients who have we should embrace a termi-MASLD and consume alco- nology which is positive, non hol which is above the thresh--stigmatizing, and pervasively the be categorized as metabolic pathophysiological causes of dysfunction-associated alco- hepatic steatosis. The disease

metabolic risk factors. The • Those SLD patients with no Pakistan Society of Hepatolo-

> Our incentive is to classify steatotic liver disease Non-Communicable Disease (NCD) class and include it in sustainable development goals (SGD),

Dr. Zeeshan Ali in the beginning explaine new nomenclature of fatty liver disease.

Term MASLD (Metabolic Dysfunction Associated Steatotic Liver Disease is used when there is excessive hepatic fat accumulation with IR & OR metabolic risk factors, and steatosis in >5% of hepatocytes.

The Term **MAFL** (Metabolic Dysfunction Associated Fatty Liver) is used when there is pure steatosis and steatosis and mild lobular inflammation. The Term

The term **MASH** (Metabolic Dysfunction Associated Steto Hepatitis) is used when there is  $\geq F2$  to  $\geq F3$  fibrosis. MASH may lead to **HCC** (Hepatocellular Carcinoma).

PAKISTAN SOCIETY OF HEPATOLOGY (PSH) POSITION STATEMENT: RENAMING NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD) TO STEATOTIC LIVER DISEASE (SLD), ENDORSEMENT OF NEW MULTI-SOCIETY NOMENCLATURE

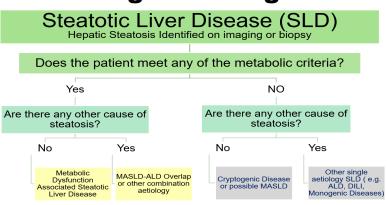
> Zeeshan Ali<sup>1</sup>, Mariam Riaz<sup>1</sup>, Altaf Alam<sup>2</sup>, Javed Iqbal Faroqi<sup>3</sup> Department of Medicine, Jinnah Postgraduate Medical Center, Karachi-Pakistan <sup>2</sup>Evercare Hospital Lahore-Pakistan <sup>3</sup>Al-Hayat Clinic Peshawar-Pakistan

Recommendations given in this position statement by PSH are as follows:

PSH recommended using terminology which is non-stigmatizing, positive and pervasively encompasses the various pathophysiological factors of hepatic steatosis. This purpose is served by using the broad term Steatotic Liver Disease, which will include all causes of hepatic fat accumulation and uses Metabolic Dysfunction Associated Steatotic Liver Disease (MASLD) to replace NAFLD. It not only banishes the stigma but also justifies the majority of the pathophysiological aspects of the disease including alcohol and other causes. 10,11 The European Association of the Study of Liver (EASL) & American Association of Study of Liver Diseases (AASLD) along with many other societies of different disciplines including but not limited to the

# Slides from Dr. Zeeshan's Presentation

# **Diagnostic Algorithm**



Is it Relevant to Us?

26% Adults<sup>1</sup> 32 M Diabetics . Limitations

41 % 25% 69% 85% MASH Obese MetS 16% 71% PAKIST MASLD Overweight Dyslipidemia<sup>2</sup>

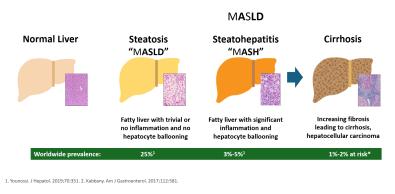
### **MASLD Fibrosis Score and FIB-4 Score: Online Calculators Easily Interpret Noninvasive**

Based on age, platelet count, AST, ALT ± other lab values



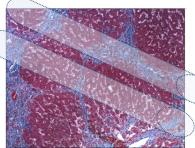


### Prevalence of MASLD and MASH



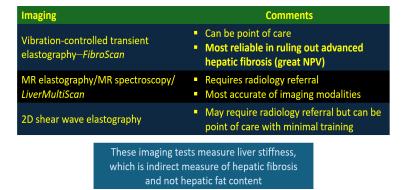
Liver Biopsy: The Imperfect Gold **Standard** 

- - Invasive
  - Painful
  - Expensive
  - · Morbidity/mortality
  - Sampling variability
  - Observer variability
  - · Expertise to perform
  - · Impractical for population screening



Sampling variability: Same biopsy may give

# **Common Imaging Tests for Hepatic Fibrosis:**

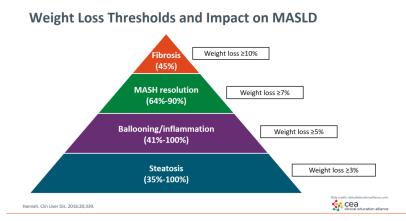


# **Goal of MASLD Treatment**

- "Holy grail": resolution of MASH and reversal of hepatic fibrosis
- Standard clinical trial outcomes
  - Resolution of MASH with no worsening of fibrosis
  - Improvement in fibrosis by ≥1 stage with no worsening of MASH
- Patients targeted for pharmacotherapy: MASH with stage ≥2 fibrosis

# Slides from Dr. Zeeshan's Presentation

### In Absence of FDA-Approved Therapies, **Early Intervention Is Key** Tackle Overweight/ **Obese Status Treat Each Comorbidity** Obesity: GLP-1 RA Exercise Diet Diabetes: pioglitazone and/or GLP-1 RA Dyslipidemia Hypertension Patient-Sleep apnea Centered >8200 daily steps Approach Obesity Sleep apnea Gastrointestinal reflux disease Major depressive disorder Cofactors, Dietary Modifiers Alcohol, smoking, fructose, coffee scea clinical e Cusi. Endo Pract. 2022;28:528. Master. Nat Med. 2022;28:2301



### Treatment of MASLD: Dietary Changes and Exercise



Exercise alone reduces liver fat

- Aerobic >150-250 min/wk
- Resistance training 45 min/day x 3 days/wk



Avoid fructose-sweetened beverages, added sugars



### **Example Diet: Mediterranean Diet**

- Rich in vegetables, fresh fruit, unsweetened cereals rich in fiber, nuts, fish or white meat, olive oil
- Limited simple sugars and red/processed meats
- Associated with reduced hepatic steatosis, improved insulin sensitivity, lower mortality



Younossi. Gastroenterology. 2021;160:912.



### **Exercise**

- Increased physical activity decreases steatosis and liver enzyme levels, even in the absence of weight loss
- When weight loss is the goal, more intense exercise is superior to minimal or low intensity
- Options
  - Aerobic 150-300 min/wk of moderate intensity or 75-150 min/wk of vigorous intensity
  - Resistance training 45 min/day x 3 days/wk, avoiding consecutive days

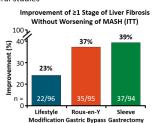
Younossi. Gastroenterology. 2021;160:912. Hashida. J Hepatol. 2017;66(1):142. Cigrovski. Front Nutr. 2021;8:734859





### **Bariatric Surgery and MASLD**

Improvement in liver histology reported in several studies

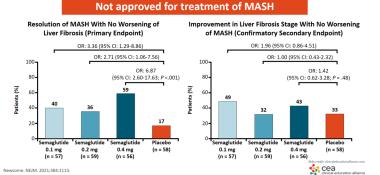


 Lap sleeve gastrectomy can be performed in select patients with compensated cirrhosis at experienced centers (>100 cases/yr)

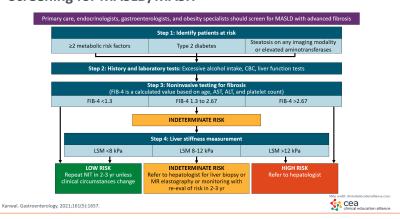
Harrison. Hepatology. 2009;49:80. Promrat. Hepatology. 2010;51:121. Chalasani. Hepatology. 2012;142:1592. Lassailly. Gastroenterology. 2020;159:1290. Verrastro. Lancet. 2023;401:1786. Boon-Bee Goh. World J Gastroenterol. 2018;24:3112.



### Semaglutide Resolves MASH and May Improve Fibrosis



### Screening for MASLD/MASH



Session-IV (Corporate Lecture-Horizon)

# Changing Patterns of managing T2DM Use of Once Weekly Trelagliptin

Dr. Zahid Miyan

The Last lecture of the Session-IV was by Dr. Zahid Miyan, the president of Primary Care Diabetes Association Pakistan. Although fatigued after a marathon of academic talks in all four session, the audience was again charged by Dr. Zahid Miyan's miraculous and magical style of delivery of presentation. He started with the pathetic condition of a mismanaged person with T2DM with a number of microvascular and macrovascular complications, affecting very badly the quality of not only his own life but of many of his family depending on him.



Challenge of achieving optimal glycemic control in diabetes is a global issue, worse in thirld world country like Pakistan. HbA1c in most of the persons with diabetes is never optimal during the course of treatment.

Glycaemic control is suboptimal in a large proportion of people with type 2 diabetes who are consequently at an increased and avoidable risk of potentially severe complications. Thre is a need to explore attitudes and practices among healthcare professionals that may contribute to suboptimal glycaemic control. Patients only are not responsible for not achieving the optimal levels of glycemia, but HCPs are also responsible for it. 52% of the people with diabetes are non adherent tio the medication. And one of the reason for this non adherence is frequency of doses.

perglycemia only with met-diabetes tion adherence to maintain for less frequent dosing. favorable glycemic control during long-term treatment. Reducing the frequency of dosing with newer drugs could provide patients with better control by improving their adherence to medications, especially when the medical condition tends to be chronic, as with type 2 diabetes mellitus. More than two-

formin in a person with poorly with prescribed oral (HbA1c) in the trelagliptin hibitor, trelagliptin, will ini-T2DM is not enough. Verify antidiabetic medications, and group compared with the pla-tially be used as a switchover trial has proved that initiation adherence is improved by de- cebo group, with metformin and DPP4i creasing the frequency of ad- dependency in HbA1c in the Thus once a week Trelaghas more beneficial effects in ministration. One of the major trelagliptin group with favora-liptingan, ultimately terms of glycemic control and causes of low medication ad- ble safety and tolerability pro- come the problem of non adin terms of delaying the com- herence is inconvenience as- files. A phase 3, randomized, herence with the treatment plications. Poor medication sociated with frequent dosing. double-blind, adherence is a common issue In fact, a questionnaire survey controlled study of 24-week T2DM. in clinical practice, particular- carried out in Japan on expec- treatment with oral adminly with chronic asymptomatic tations for new antidiabetic istration of trelagliptin 100 With this Dr. Zahid Miyan diseases, such as type 2 diabe- drugs in patients with type 2 mg once a week showed non- finished his talk and thanked tes mellitus, dyslipidemia and diabetes mellitus receiving an inferiority of trelagliptin to audience to be patient in very hypertension. In patients with oral hypoglycemic agent(s) the once-daily DPP-4 inhibi- late hours of the day. type 2 diabetes mellitus, it is showed that approximately tor, alogliptin, with favorable important to improve medica- 70% of the patients wished safety and tolerability profiles Later lucky draws were per-

> Trelagliptin succinate (trelagliptin) is a novel, longacting, highly selective dipeptidyl peptidase-4 (DPP-4) inhibitor that is suitable take once a week. A phase 2 study using once-weekly trelagliptin at doses ranging from 12.5 to 200 mg in patients with inadequately controlled type 2 diabetes mellitus showed signifi-

Innitiation of treatment of hy- thirds of patients with type 2 cantly greater reductions in pected that this newly develmellitus comply glycosylated hemoglobin A1c oped once-weekly DPP-4 inand comparable with those of formed by Dr. Zahid Miyan alogliptin. A phase 3, open- and the names of the lucky label, long-term study of 52week treatment with trelag- Amir Zahoor from Dadu liptin 100 mg once a week as (Sindh) won a laptop. Some monotherapy or in combina- other vauable gifts were also tion with an existing oral anti- distributed among lucky windiabetic drug showed well- ners. tolerated long-term safety and efficacy both with monothera- Panel discussion started after py and combination therapies. the lucky draw. In the clinical setting, it is ex-

dose- from a daily DPP-4 inhibitor. active- among

winners were announced. Dr.

#### Award distribution among the speakers, panelists and moderators of the session



Winner of Lucky Draw Dr. Amir Zahoor receiving his laptop



#### PANEL DISCUSSION

This session was a nice one. In fact the whole day was a wonderful activity. Everybody has participated in various activities. We came across different kinds of information the whole day.

As every speaker pointed out that in spite to the introduction of newr drugs and newer treatment modalities we are attaining good control of blood sugar in most of our patients. The most impressive thing which I observed is the innovation. People are very much interested in learning specially to learn how can we control the uncontrolled one.

The actual problem is that how much time we pay to our patient? We will have to be innovative and spare and spend our time for the patient. Another thing is to learn how can we apply international guidelines in the local scenario. We will have to adapt innovative approach and apply innovative ideas on the patients.



Thank you Dr. Zahid Miyan, Dr. Fareeduddin, Dr. Riasat Ali Khan and everyone from PCDA. This has been really a wonderful symposium. And I feel honored and prideful to be a part of it.

The whole day was full of learning. Specially the talk by Dr. Zeeshan Ali on NAFLD was very informative we learnt a lot from it.

Dr. Zahid Miyan is always wonderful. He has a unique way of presenting the knowledge.

Thank you all again.

Transforming Diabet

Thank you so much for giving me this opportunity to be a part of the panel. It was really an honor for me. Talk by Dr. Zeeshan Ali on MAFLD was really the brilliant one. About Dr. Zahid Miyan's talk I can just say he is no doubt an excellent presenter and a brilliant motivator.

If someone of us wants to learn how to present a presentation, I would recommend to learn it from Dr. Zahid Miyan.

Thank you everyone from PCDA, my own association.





And
See you again in
2026 in
9th. International
PCDA Symposium

#### Latest From

## **DIABETES UK**

#### (NOW DIABETES. FIGHT DIABETES

#### Reports Dr. Riasat Ali Khan from UK

Professional Conference of Diabetes UK has always been a popular event for Pakistani doctors. Every year a large number of doctors travel to UK to attend the lectures and other activities by the forum.

Many PCDA members from all over Pakistan were among the attendees of Conference 24. Scholars and researchers from varqious parts of the world presented their work in the conference.



#### Here are some research highlights from Diabetes UK Professional Conference 2024

1 What is next for insulins and blood sugar monitoring? Dr Alice Cheng from the University of Toronto gave glimpse of what's in the pipeline for the diabetes management: insulin and blood sugar monitoring. He said that once-weekly, super long-lasting insulins are coming soon as a new treatment for type 2 diabetes. For people with type 1 diabetes, 'smart' glucose responsive insulins are the next big hope. New gadgets for measuring sugar

The Type 1 Diabetes Grand Challenge makes a splash.

Dr James Cantley informed about grow back insulinmaking beta cells directly in the pancreas. Next, Dr Vicky Salem and Rea Tresa spoke about their team's work to bio-print a protective home for transplanted beta cells, to help them survive and thrive safe from the immune system's attack.

Lastly, Prof Sarah Richardson described how she and her team have been looking in incredible detail at rare pancreas samples to learn more about the type 1 diabetes timeline, and how we might be able to intercept the immune system attack.

3 Dr Vicky McKechnie described the psychological impact of technology on the outcome of the treatment of diabetes. E.g. CGMs and BP monitors.

She explained that while the benefits of CGMs are many, it's important to recognize the psychological distress that technology can add. Thus any change in the behavior of the patient should me monitored closely whit modern gadets for monitoring there blood sugar or blood pressure are used.

4 The power of type 2 diabetes prevention.

Professor Jonathan Valabhji shared the latest research on the Healthier You NHS Diabetes Prevention Programme (DPP), with findings driving home the impact it can have in preventing type 2 diabetes.

They saw that people who completed the programme had on average a 42% lower risk of developing type 2 diabetes, compared to those not referred.

Dr Wake and Dr Debbie described the idea of using artificial intelligence (AI) in diabetes care, powering diabetes technologies, speeding up tasks in research labs, and helping doctors to make more informed care decisions.

More to come: Analyzing eye screening images to predict risk of heart problems, helping to count carbohydrates, using chest x-rays to predict who's at risk of type 2 diabetes, predicting who with type 2 diabetes will respond best to which drugs, helping doctors distinguish between different types of diabetes, to get the diagnosis right.

Professor Partha Kar and Dr Shivani Misra kicked off a session spotlighting success stories of research directly improving NHS care and rapidly making a difference to the lives of people with diabetes.

Their research has highlighted that early onset type 2 diabetes is rising quickly. It's more likely to affect people from minority ethnic groups or who live in more deprived areas. It's more aggressive and brings new challenges to healthcare providers.

The Neil Reeves at Manchester Metropolitan University has been testing if vibrating shoe insoles could be a potential solution for the nerve damage in the feet of diabetic people.

Nineteen people with diabetes and nerve damage tried the vibrating insoles over 10 days, wearing them for at least four hours a day. The researchers tested their foot health before and after. They found people showed an improvement in their nerve function and sensation after using the insoles.

Dr Rita Forde at Kings College London has been looking at the care women with type 2 diabetes receive before pregnancy. She found that pre-pregnancy support is not included as routine, and there's no tailored care available. Stigma and stereotypes can also hinder women's access to the right support. This gap in care can make pregnancies riskier for both mum and baby.

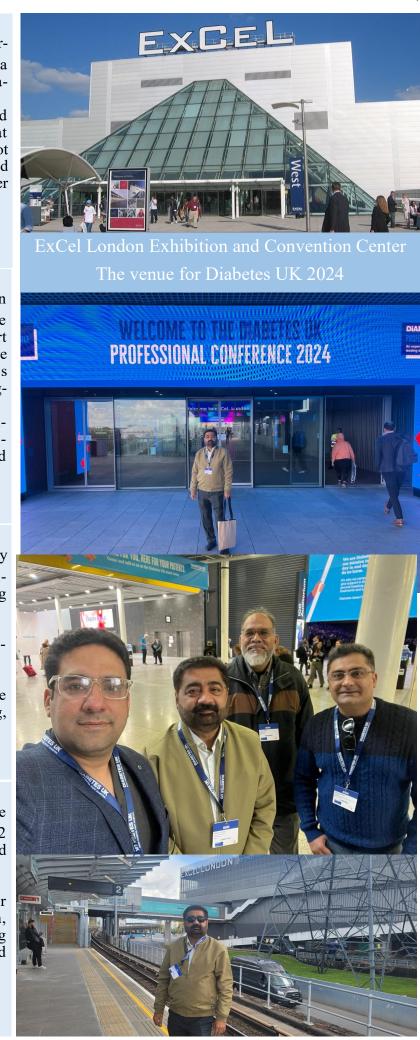
Dr Forde and team are now developing a new intervention, to help make sure women with type 2 get the specialised care they need to have a safe pregnancy and health baby.

Andy Broomhead and Dani Roe presented their study on the stigma of diabetes. Most people with diabetes experience stigma, many internalise stigma, believing myths and misconceptions about diabetes themselves. Over half miss healthcare appointments due to stigma. Stigma from friends, family and colleagues has a particularly strong negative impact.

Professor Nick Oliver and Dr Rita Forde later spoke about the world-first research projects they're leading, with funding from Diabetes UK.

10 Dr Mars Skae told the attendees of the conference that nearly everything we know about treating type 2 diabetes is based on adults, so it's vital for research and care to focus on the specific needs of children.

New approaches that hold promise to advance care for children living with type 2 include structured education, guidance on the safest ways to lose weight, changing eating patterns to sync up with internal body clocks, and access to newer medications.





### Dr. Altaf A. Cheema reports from Lahore Chapter

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# Diabetes Pakistan

**Metabolic Syndrome** 

1st Internatinal Conference in collaboration with



Layallpur Diabates Foundation



Primary Care Diabates Association



Faisalabad Medical University



Pakistan Society of Internal Medicine



Pakistan Academy of Family Physician

Date: 1st - 2nd November, 2024 Empowering Communities,
Advancing Care:
A Global Approach to
Diabetes Management

Venue; Serena Hotel, Faisalabad

#### **PATRON**

Prof. Dr. Aamir Shaukat Prov V.C (FMU)

#### **PROGRAM CHAIR**

Prof. Dr. Zahid Yasin Hashmi

Prof. Dr. Abdul Hafeez Chaudhary

Dr. Ahmad Shahzad

Dr. Riasat Ali Khan

Dr. Ijaz Anwar

Contract Conference Secreratiate:

Email:

diabetes.pakfsd@gmail.com

WhatsApp Contact:

**9** 0313 599 1457

#### Faiasalabad Mini Symposium in 2023 turned to be **HUGE** Event





#### Pre-Conference Workshop in Faisalabad on 21 May





Layallpur Diabetes Foundation (LDF) and Primary Care Diabetes Association (PCDA) in association with AGP Limited cordially invites you to attend a Pre-Conference Workshop of 1st International Conference titled

#### **Empowering Communities, Advancing Care: A Global Approach to Diabetes** Management

Join us to explore the 'Unmet needs, complications, clinical manifestations, and management of Chronic Venous Insufficiency and Diabetic Microvascular Complications (CVI & DmVC)"



21st May 2024



02:00 pm



Serena Hotel, Faisalabad

We would be delighted and highly appreciate your presence at the workshop.

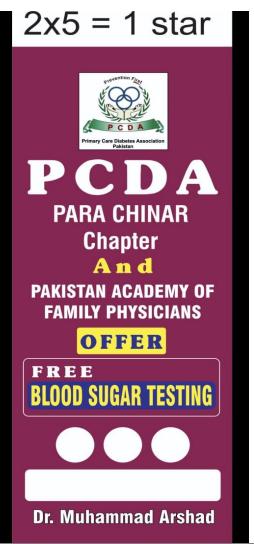


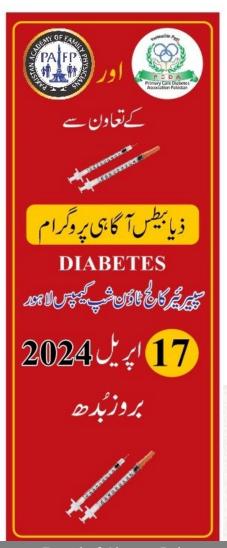
#### Dr. Irfan Sheikh of Multan Chapter arranged RTD





#### Some interesting posts on PCDA WhatsApp group







PCDA Shafqat Mirza

→ Forwarded

The thinner you are, the higher the discount! This is the unusual idea that came up to the Mongolian Master in Kuching, a restaurant in Malaysia. 

In Malaysia, however, discount promotions depend on the dimension of your belly! To assess clients hody size customers have to go through a

In Malaysia, however, discount promotions depend on the dimension of your belly! To assess clients body size, customers have to go through a hole with the entire body: The thinner the hole through which customers can go, the less they will pay for their meal. At the entrance of the restaurant, there are 5 vertical passages with different thicknesses. Each passage is associated with a different discount percentage. Customers have to go through the passage sideways and will get the discount depending on which passage they cross easily.

Credits: Explorer Facts

r Facts 🤎 👍

Dr. Shafqat Mirza, Karachi

M. Arshad, Parchanar

Dr. Altaf Cheema Lahore

PCDA REPORTERS

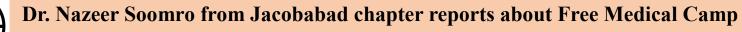
#### OBITUARY-Younger brother of Dr. Khalid Mazari passed away





All cabinet members of PCDA Pakistan and the Publications Committee of PFN Online, condole sad demise of MR GHAZI KHAN MAZARI, younger brother of Dr. KHALID HUSSAIN MAZARI (head of PCDA Rahim Yar Khan Chapter)

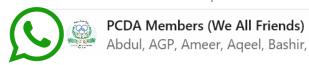
MR GHAZI KHAN MAZARI tragically passed away on last week due to chronic kidney failure. He bravely battled the illness for the past four years, receiving hemo dialysis to help sustain his health. Despite his struggles, he remained devoted to his family, leaving behind five precious children. At just 38 years old, his untimely departure has left a void in our hearts. His family and friends remember him for his strength, resilience, and unwavering love for his family. May his memory be a source of comfort and inspiration for his family during this difficult time. Ameen!





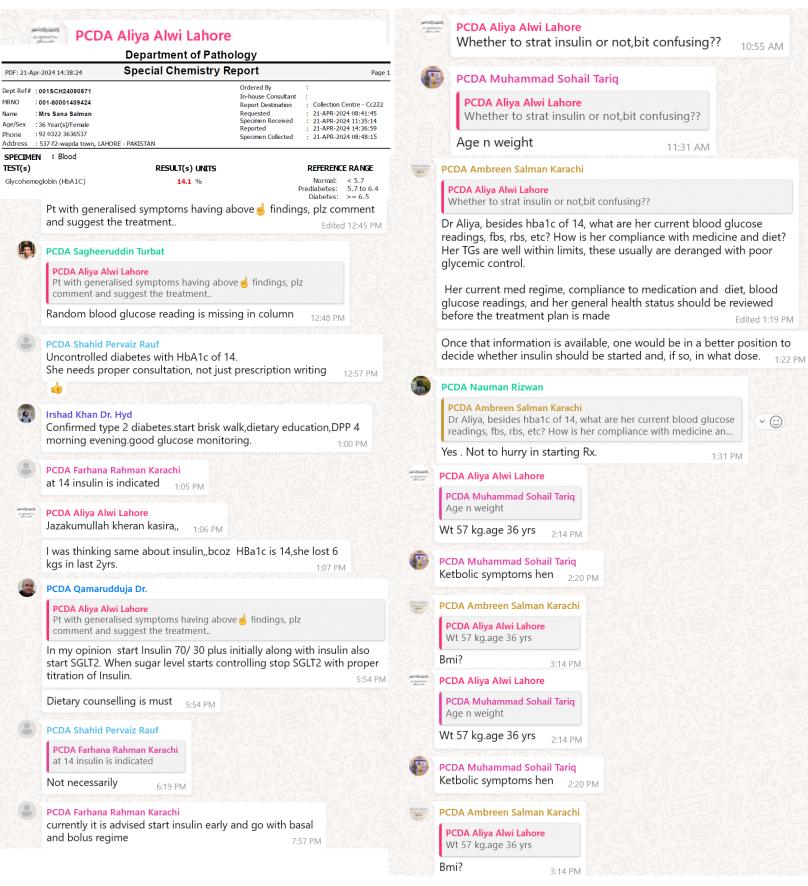
Dr. Shehzad Tahir from Islamabad reports about a RTD





#### Chat of the month

**Dr. Aliya Alwi** from Lahore posted lab reports of Mrs. Sana Salman aged 36 years with no recent specific symptoms. The only finding was HbA1c: 14.1%. The post was instantly responded by the group members.



# latest from D-Foot Internationa

# 21ST DFSICON 2024 10TH IADFS 2ND D FOOT INTERNATIONAL

Venue : The Westin Mumbai Powai Lake

Dates: 27th - 29th September 2024

# 1st time in India



nteract nnovate mplement mprove

Theme:



# DFSICON 2024! Don't miss to Register



FOR MORE DETAILS VISIT

www.dfsicon2024.com



SCAN TO VISIT WEBSITE



#### Dear Readers:

Prevention First Newsletter is the official newsletter issued by the Publications Committee of PCDA (Primary Care Diabetes Association Pakistan). The paper version is printed on the occasion of every mega event by PCDA Pakistan.

- Prevention First Newsletter has limited circulation, to be circulated among members only.
- PFN-Online is the online version of Prevention First Newsletter, which is published to the social media groups of PCDA Pakistan on the 15th. day of every month.
- PFN-Online publishes the reports and photographs of the activities of PCDA and its chapters across the country.
- Reports of only those events are included in PFN-Online which are managed under the platform of PCDA. Better choose and send the pictures with name or logo of PCDA.
- The Publications Committee and the Editorial Board of Prevention First Newsletter, have right to accept or reject any material sent for publication.
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#### SCAN FOR THE MEMBERSHIP OF





