

PCDA has achieved next level of recognition Says President Dr. Zahid Miyan



Dr. Zahid Miyan addressed the attendees of Annual General Body Meeting (Hybrid) 2024. The central cabinet and heads of committees gathered in Hotel PC Karachi, while All the chapter heads and general members were attending the meeting online. In the beginning he thanked almighty Allah who gave us this opportunity to gather and to listen to each other, to present reports about their individual and group performances, to give suggestions and discuss things related to PCDA.

I will not use the word PROUD, but we are GLAD to see the achievements which Allah has granted to us. The main target of our efforts is to raise the level of the care of a person with diabetes to a level where the developed nations are. It should be standardized to a uniform level in all villages, districts, towns and large cities of the country. PCDA team is doing a lot in this regard and achieved many successes.

We are now focusing on networking of the data collection. Our more than 600 members from all over the country should be linked with each other.

Dr. Zahid quoted a statement by Frank Gaim from IWGGF who recently met him in an international event in Tanzania. She said that now such data collection has been simplified and only few points are included to make it easier for the researchers to manage. In UK they conducted a huge national survey on diabetic foot ulcers by using only six questions, which covered all aspects of the problem. Various types of analysis could be easily done only by this short questionnaire. And recently we experienced in "Fast Track" study. We are planning to build a software through which data could be easily collected from all the clinics of our members. Dr. Zahid emphasized on using

"generic" while studying the effects of a particular medicine. We do not intend to monitor the preference and choices of a member doctor, we should mention the generic in the data. If we succeed in collecting data from 600 centers across Pakistan, this would be probably the largest data ever collected. I'm confident that the coming cabinet in next 2 years time will focus on this program and succeed in collecting such a tremendous data. This will certainly help in standardization of care of the people with diabetes.

The other aspect of standardization of care is the "Awareness of the diabetes patients". STEP is working hard in this regard under the able leadership of Dr. Izhan Khan who has gathered a galaxy of brilliant star students. These students work very hard in collecting data during the screening camps by

PCDA. Similarly DEW, the research committee and publications committees are working on their projects with a lot of devotion and dedication.

All these efforts have moved PCDA to a NEXT level. A level which is International. Our collaboration with D-Foot International has proven very productive. And now our recent recognition by IDF is not a joke. It's an historical development. All friends of PCDA helped in achieving this status, and the role of Prof. Abdul Basit was the most important one. He talked to every important person in the International Diabetes Federation about PCDA and his excitement and jubilation was evident from his announcement of recognition of PCDA by IDF, he made during recently held NADEP FootCon held in Hotel Movenpick Karachi.

So we are now at the next

level of recognition. Now the work done by PCDA will be witnessed and appreciated by the whole world. Be confident that now you have an international status. This will ultimately improve the standardization of care of the diabetics in our country.

In the end the president thanked all the members, chapter heads, the heads of various committees and the sponsors.

Issue-14 October 2024

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Cluster of projects and programs on the way

All PCDAians get ready, we are on fire. Says President Elect



Talking to the attendees of the Annual hybrid General Body Meeting 2024, president elect Dr. Riasat Ali Khan presented future plans and perspectives of PCDA Pakistan.

Initially he thanked all physical and online attendees, to spare their valuable time on the morning of Sunday. Then he talked about the research work PCDA has done and is planning to do. He talked about “Quality of Life” and “Cease” trials which have completed and published in Pakistan Medical Journal.

We have arranged at least three propagation program on “Quality of Life” trials.” Dr. Asima and I conducted program in Hyderabad, Dr. Ahmad Shahzad in Faisalabad and Dr. Shehzad Tahir in Islamabad. We are planning to arrange 12 propagation programs in October in various cities of the country. One of these propagation program will be conducted on 13th. October in the breakfast session of 3rd. Day of PES Conference in Lahore. This will be attended by many cabinet members.

Talking about the “CEASE” trials he told that it has been completed. We have approvals to present it as paper presentation at three different international events, one in Abu Dhabi, second in Malaysia and third in IDF. Next month this is going to be published in an international journal.

He updated the attendees about forthcoming “Diabetes Pakistan” Conference in Faisalabad to be held on 1st. And 2nd. November this year. He invited all to attend this mega event, on behalf of Dr. Ahmad Shahzad who is chief organizer of the event.

He also invited all to attend the inaugural ceremony of “D-FIDE” (Dr. Farasat Institute of Diabetes and Endocrinology) in Mansehra, on Friday 11th. October at 3.00 p.m. This huge project is constructed by Dr. Farasat, head of Mansehra chapter of PCDA. He intends to run research activities of PCDA in this center.

Talking about the forthcoming “World Diabetes Day” on 14 November 2024, he recalled that last year 54 events were organized in the month of November. This year we are expecting much more. STEP guys, like every year, are planning Diabetes Day Drive.

About forthcoming screening camps of PCDA, Dr. Riasat informed that on Sunday 6th of November e are going to Jhaddo, a far flung town of Sindh Province. Dr. Naresh will be hosting this camp under the SEED project in collaboration with PharmEvo. On Sunday 3rd November screening camp will be performed in Sangla Hill. On 1st. of December a screen camp in Maripur.

“Roadside Camp” is a new exciting plan under the project “Diabetes Control-Zindagi Anmol” During these 84 camps to be arranged in six month period, general public will be screened for diabetes and associated prob-

lems. He informed that data collection from all screening camps is now planned to collect online through an application developed specially for the projects. We will try to use this application where feasible, yet there are many areas in the country where networking is a problem and we will continue collecting data manually in these areas.

8 programs are planned under the project of “Aap Ka Tibib” headed by Miss. Saima Rasheed. These are basically sessions on nutrition awareness.

“Journey to defeat diabetes-Train March” is planned by the Joint Secretary and head of Sindh chapter of PCDA, Dr. Pawan Kumar. All PCDA cabinet members will travel by train from Larkana to Kotri and arrange screening and awareness session at every station on the way. Many celebrities and government officials are expected to attend this march Dr. Pawan has made all necessary arrange-

ments of this Train March and hopefully this will be a very success program of World Diabetes Day this year on 3rd Sunday of November.

About Diabetes Care Network (DCN) he informed that this will be an official YouTube Channel of PCDA Pakistan, which is near completion and hopefully we are going to launch it on 14th. November. On this channel awareness lectures on diabetes by PCDA doctors, discussions, news coverage of PCDA activities and other programs can be viewed.

Apart from the DCN YouTube channel, 20 Diabetes Care Clinics will be opened in rural and less privileged areas of Sindh Province at the already running clinics of qualified PCPs. These primary care physicians will be trained first for managing diabetes and its complications. Pinnacle Pharma has taking responsibilities of their training and subsequent running of their DCN clinics.



Annual General Body Meeting of PCDA 2024

Report: Dr. Shahid Akhter

Date: 22nd September 2024
11.30 a.m. to 2.00 p.m. Venue Hotel PC Karachi and online

(General Member), Dr. Naresh Kumar (General Member), Dr. Umair (General Member)

Participants: Dr. Zahid Miyan (President PCDA), Dr. Fareeduddin (President Past), Dr. Riasat Ali Khan (President Elect), Dr. Asima Khan (Vice President), Dr. Shakeel Ahmed (Gen. Secretary), Dr. Pawan Kumar (Joint Secretary), Dr. Iqbal Batavia (Finance Secretary), Dr. Shahid Akhter (Heads of Publications), Dr. Majid Khan (Head of Media), Dr. Izhan Khan (Head of STEP), Dr. Faryal Tariq (Executive Women Member), Dr. Moazzam Ali Shah (General Member), Dr. Dewan (General Member), Dr. Sajid Mehmood (General Member), Dr. Noor Asghar Nadeem Shaikh (General Member), Dr. Amer Hafeez

The Proceedings

Moderator Dr. Izhan Khan presented agenda of the meeting after recitation from Holy Quran and the national anthem. Dr. Shakil Ahmed presented the performance of PCDA during past year. Heads of various Committees started presenting their performance reports one by one. Dr. Shahid Akhter presented a report of the performance of Membership Committee and the Publications Committee. Dr. Majid presented a report of performance as the head of Media Committee and as the chapter head of Matli Dr. Asima Khan and Dr.

Umair presented reports of the performance of Research Committee. In the absence of Dr. Qazi Mujahid, Dr. Riasat Ali presented the performance report of DEW. Dr. Izhan presented performance report of STEP. Chapter Heads from all over the country and abroad who attended the meeting online gave their input one by one. Dr. Ahmad Shahzad from Faisalabad. Dr. Farasat Ali from Mansehra, Dr. Tahir Rasool from Lahore, Dr. Javeria Salman from Hyderabad, Dr. Khaleeq Warsi from Canada, Dr. Irfan Shaikh from Multan and Dr. Qaiser Mahmood from Gujranwala, Dr. Waqas Ali from Matta Swat ; were few who registered their valuable inputs. Dr. Fareeduddin

presented report on the Screening Camps of PCDA under various projects e.g., SEED, Rakho Apna Khayal and Diabesity etc. Dr. Pawan Kumar the head of PCDA Sindh presented details of his Train Journey To Defeat Diabetes from Rohri to Kotri. Dr. Riasat Ali Khan presented the details of forthcoming programs, plans and future perspectives of PCDA. Dr. Zahid Miyan in his presidential address explained the national and international aspects of the plans and programs of PCDA. He also thanked all the participants. Dr. Riasat in the end thanked all the online and present participants, the IT team and the sponsors.

Glimpses of the meeting



Jhuddo warmly welcomes Team PCDA

President elect addresses to the participants of Diabetes Screening Camp

Report: Dr. Shahid Akhter



Dr. Riasat Ali Khan said that Pakistan is at the top in the world ranking in terms of the prevalence rate of diabetes. He said not only doctors but every citizen from all the sects of the community will have to stand and play their dew role in the fight against diabetes. This is the only way to stop and reduces the fast growing prevalence rate of diabetes. We should be prompt and fast in our action, otherwise it is too late.

The president elect of PCDA Pakistan Dr. Riasat was talking to the Media men during “Diabetes Screening Camp” under SEED project by PCDA Pakistan and Pharmevo. He briefed them about PCDA, its aims and objectives, its ongoing projects and forthcoming plans. Research oriented Data was obtained on the recommend and prescribed form by the STEP and DEW volunteers. Afterward these people were examined and consulted by the expert physicians and diabetologists of team PCDA, and subsequently management prescribed. Free medicines were distributed

Dr. Naresh Kumar the head of Jhudo Chapter of PCDA hosted and made all arrangements of the camp very beautifully. It was arranged in Qaim Khani Hall in the center of the town. Hundreds of the town dwellers, including general public, prominent personalities from the community, journalists, officials from health and local bodies attended the camp and screened for diabetes and other associated diseases.

Awareness sessions in sindhi was conducted by Dr. Naresh Kumar who addressed to the camp attending public in local language, which was much appreciated by the audience and a very health interaction and discussion was witnessed. Dr. Faredduddin, Dr. Riasat and Dr. Shakeel also addressed the Awareness Session.



Another Screening Camp under SEED held in Jhuddo

Gul Mohar Tree planted by Team PCDA in Rural health Center

At 4.00 a.m. on Sunday morning on 6th. October'24, when nearly everyone was enjoying a relaxing long deep sleep, team PCDA including its central cabinet was starting their journey to a far flung town of Sindh province, Jhudu, to conduct a "Diabetes Screening Camp" under SEED project by PCDA Pakistan and Pharmevo. So far dozens of large screening camps have been arranged under this project.

PCDA Team comprised of Dr. Riasat Ali Khan, Dr. Asima Riasat, Dr. Fareeduddin, Dr. Shahid Akhter, Dr. Shakeel Ahmed, Dr. Naresh Kumar, Dr. Azeem, Dr. Qazi Mujahid, Dr. Izhan Ali Khan, Dr. Fareeha Khan. Mrs. Saima Mujahid and Mr. Nohail Khan



About SEED Project



SEED: Screening of outreach for discovering Diabetes

mEvo have took another step towards a Healthier Society, i.e. SEED, an initiative for Healthier Pakistan where PCDA & PharmEvo have pledged to screen outreach areas of Pakistan to create awareness about defeating diabetes along with nurturing the nature by projecting plantation drive throughout Pakistan. The only objective of both parties is to make a better & healthier Pakistan in order to reduce the burden of the most important

PharmEvo were thoughtfully design a nationwide campaign to equip the nation with preventive measures to halt this epidemic. This unique partnership has only one agenda to screen almost 1 Million Pakistanis in a year in order to diagnose diabetic patients as early as possible along with making the environment healthier through plantation at multiple sites of Pakistan.

On 18th August 2022, we PCDA & PharmEvo joint hands together for this great initiative i.e. SEED which was debriefed to media by Dr. Fareeduddin (President, PCDA), Dr. Riasat Ali (General Secretary, PCDA), Mr. Jamsheed Ahmed (CEO, PharmEvo) and Mr. Abdus

Samad (Director Marketing, PharmEvo) in the presence of Pakistan's leading news anchor and host Mr. Waseem Badami, who further appreciated the efforts of PCDA & PharmEvo to focus on 02 most important component of life i.e. Health & Environment. While addressing to the media, Dr Fareed Uddin emphasize on the role of healthy environment. He discussed the current situation of urban flooding & how trees can help us to combat urban flooding & global warming. Further, he highlighted the significance of physical health & mental health.



On the occasion of 75th Independence Day, Primary Care Diabetes Association (PCDA) in collaboration with Phar-

metabolic disorder which is spreading like a fire i.e. Diabetes. Members at PCDA &

Team PCDA planted a tree in Rural Health Centre Jhaddo



About Jhuddo

Jhuddo (Sindhi: جھڏو) or Jhudo) is a city in Mirpur Khas District, Sindh province, Pakistan with a population of 4.5 lac, its postcode is 69310, Recently, it had acquired the status of Taluka/Tehsil.

Jhuddo is the native town of Dr. Naresh Kumar who is the head of Jhuddo chapter of PCDA

Discovering
DIABETES
A CSR Project of Pharmvo


Sindh Government


SEED


Pharmvo
Our dream, a healthier society

فری ذیابیطیس میڈیکل کیمپ

06 اکتوبر بروز اتوار صبح 10:30 بجے سے 1:30 بجے تک

فری بی ایم آئی چیک اپ

فری بلڈ پریشر

فری چیک اپ

فری رجسٹریشن

فری شوگر ٹیسٹ

فری ہڈیوں کی مضبوطی کا ٹیسٹ

فری کولیسٹرول کا ٹیسٹ

فری پورک اینڈ ٹیسٹ

0331-4598848 مزید معلومات کیلئے فون نمبر

بمقام: نیو قائم خانی حال، وارڈ نمبر ۶، جھڏو



Dr. Naresh Kumar addressing the Awareness Session of Jhuddo Camp



Awareness Session in Jhuddo Camp



Dr. Izhan thanks Team STEP

Dr. Izhan Khan, Executive Director, STEP, a project of Primary Care Diabetes Association Pakistan, has thanked his team on its excellent performance in Jhuddo Camp. He said

“I'm pleased to share that the Jhuddo camp marked the fourth milestone in our ongoing six-month Rural Health Project, which began in July. So far, we've extended our efforts to Thana Bula Khan, Badin, Tando Allahyar, and now Jhuddo.

I want to extend my heartfelt congratulations and sincere thanks to everyone who participated in these camps. Your dedication to spending an entire day traveling long distances, not for personal gain but to serve and uplift communities in need, speaks volumes. Please take a moment to recognize the incredible work you're doing—you truly represent the future of this nation.

As we continue the initial phase of this project until the end of the year, our upcoming camps will be at Sangla Hill, near Faisalabad, and rural Karachi. Your continued support is vital for the success of this initiative, and I'm confident that together, we will make an even greater impact.

Thank you once again for your hard work and dedication.”



DEW Team assured the smoothest running of Jhuddo Camp

Head of DEW, Dr. Qazi Mujahid



D.FIDE Mansehra inaugurated by Team PCDA

Head of Mansehra Chapter of PCDA Pakistan invited Dr. Riasat Ali Khan and his team in the inauguration and opening of his newly constructed medical center in Mansehra KPK. He has announced to establish an Institute of Diabetes and Endocrinology in this facility by the name of D.FIDE. He intends to run this teaching and research centre under the management of PCDA Pakistan. For this, the President Elect of PCDA Pakistan has set an advisory committee who will suggest the mechanism to start and run teaching and research activities in D.FIDE.



On 13th. October at 3.00 p.m. the inauguration ceremony of D.FIDE was held. A delegate from Karachi com-

prising of Dr. Riasat Ali Khan, vice president Dr. Aasi-ma Riasat, Head of Publications and Membership Committees Dr. Shahid Akhter

specially flew from Karachi and participated in the inauguration ceremony.

A large number of dignities

of the areas and hundreds of the area people were present in the ceremony. The cake cutting ceremony was conducted by the Team PCDA,



PCDA News in brief



Dr. Shakeel Ahmed, General Secretary of PCDA Pakistan visited the Department of Rehabilitation and Health Sciences, Nazeer Hussain University Karachi. On this occasion Prof. Dr Muhammad Asif, director department of rehabilitation and Health Sciences, Nazeer Hussain University Karachi said “I'm truly grateful for the opportunity to learn from your expertise. Our discussion on Diabetic Foot management was incredibly enlightening. Your insights and expertise in this area are exceptional, and I gained valuable knowledge that will enhance my practice. Prof. Asif said “Your passion for sharing knowledge and im-

ful for the opportunity to learn from your expertise. Our discussion on Diabetic Foot management was incredibly enlightening. Your insights and expertise in this area are exceptional, and I gained valuable knowledge that will enhance my practice.

Prof. Asif said “Your passion for sharing knowledge and im-

proving patient outcomes is inspiring. I appreciate your mentorship and guidance, which have significantly impacted my professional growth”

Dr. Shakil Ahmed is also one of the directors of College of Family Medicine Pakistan.



Dr. Majid Khan is Head of Media Committee of PCDA Pakistan who very frequently delivers lectures on various media. This live program was recently tele-casted on METRO News channel. During the program he described the ways how to prevent, giagnose and manage diabetes.



NO.F.1-3/EXAM-2024/CPSP/13-N

Issued Date: 04/04/2018

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Dear Doctor,

LETTER OF CONGRATULATION

I have the pleasure to intimate that you have satisfied the requirements for the Intermediate Module August 2024 Examination in the discipline of **MEDICINE (GROUP-B)** and are hereby declared to have passed the same.

SESSION	ROLL NO.	SUBJECT	HELD ON	VERIFICATION CODE
Autumn-2024	15186	PHYSICS	01.10.2024	819331

This success in Intermediate Module does not mean you are a qualified specialist. Now you are required to complete remaining R & R C registered training including some mandatory workshops, maintaining e- logbook for the entire duration of remaining training and submitting a portfolio for approval to R & R C during the beginning of the last year of residency. You may be asked to fulfill any other requirements as determined by CPSP before appearing in FCPS- II examination.

Please note that requirements are constantly under review and it is your responsibility to be aware of the current regulations which will be available on the day of your FCPS-II examination. Intermediate Module is not an academic qualification and you are not authorised to use it along with your other degrees/diplomas on your letter head, visiting card, and signboard or name plate.

Yours sincerely

Please Note: It is essential for you to acquire original certificate of Intermediate Module qualification which has to be presented at the time of appearing in FCPS-II examination or while proceeding abroad.

Please generate your IMM Certificate fee challan of Rs. 5500/- using your e-portal account and submit in any UBL branch throughout Pakistan and submit one copy of your deposited slip along with your issuance of IMM Certificate latest by 03, November 2024. Payment in Bank Draft/Pay Order is not acceptable.

A sum of Rs 1,000/- to be added, if deposited after the last date.

This Letter can be verified at <https://ecert.cnsd.edu.pk/verify/exam-certificate>

Dr. Nazeer Soomro, head of Jacobabad chapter of PCDA reports:

“By the grace of God and Duas of my parents my elder daughter Dr Noor ulhuda has passed IMM exam of FCPS”



Dr. Javeria Salman reports from Hyderabad Chapter

Dr. Javeria Salman head of Hyderabad chapter and executive member of PCDA accompanied by Dr. Hira Baqai member of PCDA participated in a Free Medical Camp at Elite Banquet Karachi on Sunday 29th September 2024 in which almost 400 plus patients were examined and about 200 were screened and managed for Diabetes.

Laboratory offered free lab testing to all patients in this camp. The camp was arranged by Jamiat Hakiman Dehli Pakistan community Hyderabad



Dr. Nazeer Soomro reports from Jacobabad Chapter



Dr. Shahid Iqbql Gill reports from Toba Teksingh Chapter

A presentation about upcoming PCDA diabetes conference going to be held on 1st and 2nd November Serena Faisalabad, was given to PMA kamalia and Toba tek Singh

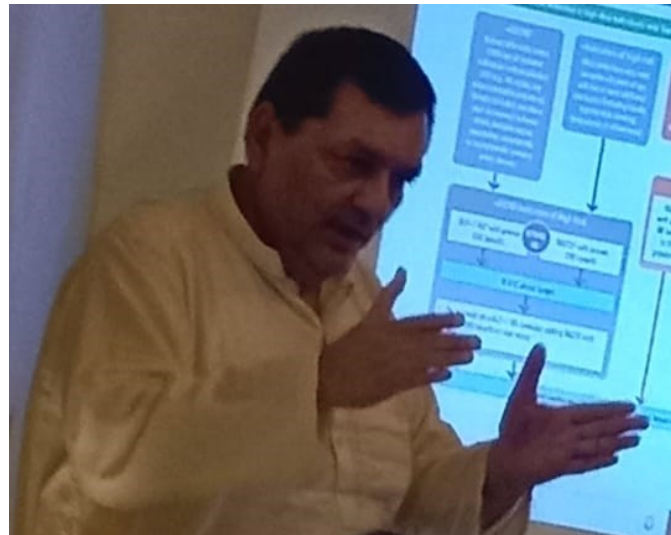


Dr. Sikander Ali Rahu reports from Nawabshah Chapter

Free Diabetes screening camp was arranged by Dr. Sikander Ali Rahu, the head of Nawabshah chapter of PCDA. During the camp free tests were done and free medicines were provided to the people with diabetes



Dr. Irfan Shaikh reports from Multan Chapter



Dr.
Irfan
Ahmed
Shaikh
is head
of Mul-
tan
Chapter
of
PCDA
Paki-
stan



Dr. Irfan in PES Symposium'24 Lahore

Dr. Sohail Shokat reports from Sahiwal Chapter of PCDA

Free Medical Camp for people with diabetes in Rehman Medical Complex Sahiwal



RTD on Extended Release Combination By Dr. Sohail Shaukat in Sahiwal



Saima Rasheed's Diet Corner



Type 2 Diabetes (T2D) is a major health problem worldwide. This metabolic disease is indicated by high blood glucose levels due to insufficient insulin production by the pancreas. An inflammatory response occurs as a result of the immune response to high blood glucose levels as well as the presence of inflammatory mediators produced by adipocytes and macrophages in fat tissue. This low and chronic inflammation damages the pancreatic beta cells and leads to insufficient insulin production, which results in hyperglycemia.

By utilizing both innate and adaptive immune cells, along with antibodies unique to each disease, the immune system works to eliminate

antigens. Therefore, maintaining a nutrient-dense diet is essential for supporting cell growth, providing energy, and ensuring effective immune defense.

Furthermore, nutritional deficiencies are closely associated with impaired immune responses and loss of host resistance to infection

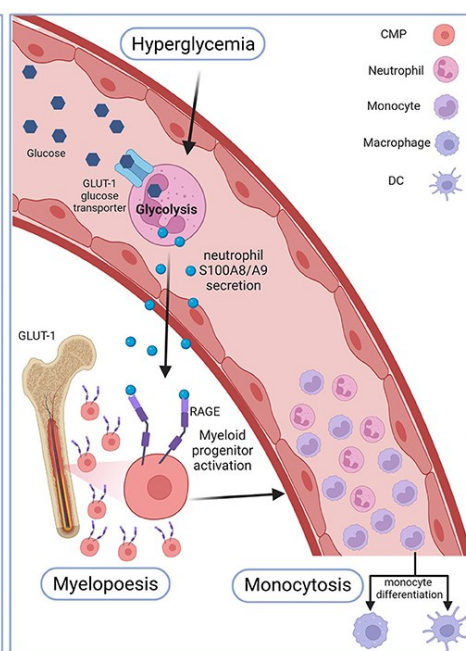
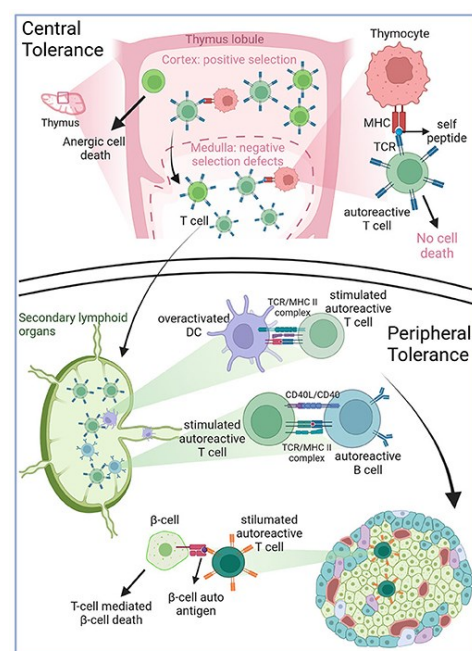
Developed countries often experience insufficient dietary quality, with many foods lacking genuine nutritional value while still providing excess calories. This is why developing regions are facing issues with non-communicable diseases such as obesity, diabetes, and cardiovascular complications.

Hyperglycemia impacts host defense responses, affecting

both the innate and adaptive immune systems. The innate immune system provides rapid, non-specific defense without memory, involving barriers, inflammation, and various immune cells.

fects in complement receptors and Fcγ receptors on isolated monocytes, resulting in phagocytosis impairment.

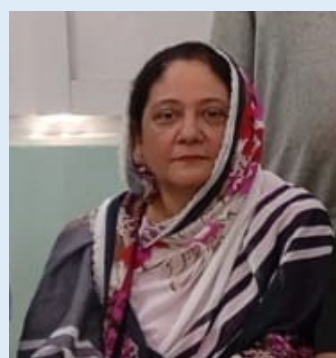
Recent studies have shown significant differences in immune cell function between obese individuals and those with a healthy weight. There are notable variations in leukocyte counts and subsets, as well as differences in the phagocytic and oxidative burst activities of monocytes among these groups. Furthermore, circulating mononuclear cells in obese individuals display a pro-inflammatory state compared to those of healthy weight. Additionally, impaired lymphocyte proliferation in response to polyclonal stimulation has also been observed.



Common immune cell function and inflammatory mechanisms between diabetes mellitus and atherosclerosis cardiovascular disease.

	T1D	T2D	ACD
Inflammation type	Chronic insulinitis (11)	Chronic insulinitis and systemic inflammation (8, 20–24)	Chronic systemic and plaque lesion (25)
Role of inflammation	Autoimmunity onset and progression Disease complications	Disease onset and progression Disease complications	Disease genesis Disease Progression Plaque instability and rupture (ischemic complications)
Molecular mediators	Antibodies: used for diagnosis and treatment plan (11)	IL-1B, IL-6, TNF-a, IFN γ , IL-18 produced by adipose tissue: maintain a chronic inflammation that leads to insulin resistance, immune cell activation and recruitment to islets (21–23)	IL-1B, IL-6, TNF-a, IFN γ , IL-18, CCL2 (MCP-1) produced by immune and endothelial cells: activation and recruitment of immune cells to the plaque (10, 25)
Chemokines	IL-1B, TNF-a: maintain inflammation		
Cellular mediators			
Neutrophils	Increased pancreas infiltrates NETs extrusion in pancreas (17, 18)	NET extrusion in blood: increases with hyperglycemia (26)	Role in plaque progression: maintain inflammatory state and promote plaque instability; promote EC erosion through neutrophil traps; ROS (27, 28)
Circulating monocytes	Pro-inflammatory cytokine production: IL-1B, IL-6 Pancreas infiltration: differentiate into macrophages or DC (11, 12)	Monocyte chemoattractant production: enter AT and differentiate into macrophages Maintain chronic inflammation and insulin production defects (8, 22, 24, 29)	Atherogenesis: activated and recruited to the plaque by infiltrating the arterial wall and transform into macrophages (10)
Tissue macrophages	Islet macrophages: pro-inflammatory cytokine production (IL-1B, TNF-a, ROS) Role as APC: activate T cells (11, 14)	Adipose tissue macrophages: pro-inflammatory cytokine production (TNF-a) Islet macrophages: maintain insulinitis (8, 22, 24, 29, 30)	Phagocytosis of oxLDL by macrophages that eventually transform into foam cells (10)
T-Lymphocytes	Auto-reactive T cells directed against beta-cells: lead to beta-cell destruction (11)	Insulin resistance (29, 31)	Role in plaque progression: maintain inflammatory state by producing chemokines and activating B cells and macrophages (32–36)
B-Lymphocytes	Drive the humoral response: antibody production (ICA, IAA, GAD65...) (11)	Beta-cell destruction (8, 24)	Role in plaque progression: antibody production (37)
Dendritic cells	Role as APC: autoreactive T cell priming (13, 14)	Autoreactive T cell priming (8, 22, 24, 29)	T cell priming (38)

Diet Tips for People with Diabetes and Kidney Disease



A brief review by:
Mrs. Saima Mujahid
 Head of DEW
 (Diet and Education Wing)
 PCDA Pakistan

Diet is one of the most important treatments in managing diabetes and kidney disease. DKD patients will need to work with a dietitian to create an eating plan that's right for them. This plan will help manage blood glucose levels and reduce the amount of waste and fluid kidneys process.

Which nutrients do DKD patients need to regulate?

How much protein, fat and carbohydrate a DKD patient can eat, as well as how much potassium, phosphorus and sodium they can have each day, should be carefully estimated. Because the diet needs to be lower in these minerals, they will limit or avoid certain foods, while planning their meals.

Here is an example of the diet plan recommended for a DKD patient

Carbohydrate Foods



Milk and nondairy

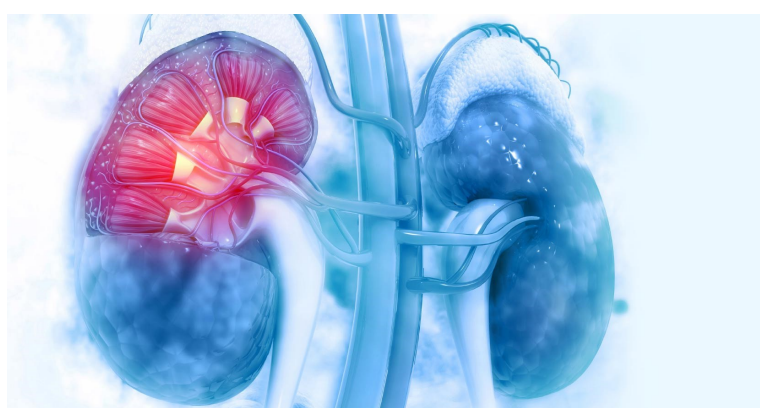
Recommended: Skim or fat-free milk, non-dairy creamer, plain yogurt, sugar-free yogurt, sugar-free pudding, sugar-free ice cream, sugar-free nondairy frozen desserts

Portions of dairy products are

often limited to 4 ounces due to high protein, potassium or phosphorus content

Limit or Avoid:

Chocolate milk, buttermilk,



sweetened yogurt, sugar sweetened pudding, sugar sweetened ice cream, sugar sweetened nondairy frozen desserts

Breads and starches

Recommended: White, wheat, rye, sourdough, whole wheat and whole grain bread, unsweetened, refined dry cereals, cream of wheat, grits, malt-o-meal, oatmeal, noodles, white or whole wheat pasta, brown, white or wild rice, bagel (small), hamburger bun, unsalted crackers, cornbread (made from scratch), flour or corn tortilla

Limit or Avoid:

Bran bread, frosted or sugar-coated cereals, instant cereals, bran or granola, gingerbread, pancake mix, cornbread mix, biscuits, salted snacks including: potato chips, corn chips and crackers. Whole wheat cereals like wheat flakes and

raisin bran, and whole grain hot cereals contain more phosphorus and potassium than refined products, but may still be included in limited amounts.

Fruits and juices

Recommended: Apples, apple juice, applesauce, apricot halves, berries including: strawberries, raspberries, cranberries, blackberries and blueberries, low sugar cranberry juice, cherries, fruit cocktail, grapefruit, grapes, grape juice, kumquats, mandarin oranges, pears, pineapple, plums, tangerine, watermelon, fruit canned in unsweetened juice

Limit or Avoid:

Avocados, bananas, cantaloupe, dried fruits including: dates, raisins and prunes, honeydew melon, kiwis, kumquats, star fruit, papaya, nectarines, oranges and orange juice, pomegranate, fruit canned in syrup

Starchy vegetables

Recommended: Corn, peas, mixed vegetables with corn

and peas (eat these less often because they are high in phosphorus), potatoes (soaked to reduce potassium, if needed) Dried beans and peas may be included in limited amounts based on your dietitian's recommendations.

Limit or Avoid:

Baked potatoes, sweet potatoes, yams, baked beans, succotash, pumpkin, winter squash

Non-starchy vegetables

Recommended: Asparagus, beets, broccoli, Brussels sprouts, carrots, cabbage, cauliflower, celery, cucumber, eggplant, frozen broccoli cuts, green beans, iceberg lettuce, kale, leeks, mustard greens, okra, onions, red and green peppers, radishes, raw spinach (1/2 cup), snow peas, summer squash, turnips

Artichoke, fresh bamboo shoots, beet greens, cactus, cooked Chinese cabbage, kohlrabi, rutabagas, sauerkraut, cooked spinach, tomatoes, tomato sauce or paste, tomato juice, vegetable juice

Higher-protein foods



Meats, cheeses and eggs

Recommended: Lean cuts of meat, poultry, fish and seafood; eggs, low cholesterol egg substitute; natural cheeses (limited amounts) cottage cheese (limited due to high sodium content)

Limit or Avoid:

Bacon, canned and luncheon meats, processed cheeses, hot dogs, organ meats, nuts, pepperoni, salami, salmon, sausage Higher-protein foods

Seasoning and calories

Recommended: Soft or tub margarine low in trans fats, mayonnaise, sour cream, cream cheese, low fat mayonnaise, low fat sour cream, low fat cream cheese

Limit or Avoid: Bacon fat, back fat, butter, Crisco®, lard, shortening, margarines high in trans fats, whipping cream

Say no to herbal supplements

Herbal supplements aren't safe if you have kidney disease. Some can hurt your kidneys and even make kidney disease worse. Some vitamins can cause kidney problems too and should also be avoided. Always talk to your doctor before taking any supplements or vitamins.

Eat the right amount of **protein**. More protein than you need makes your kidneys work harder and may make CKD worse. But too little isn't healthy either. Both animal and plant foods have protein. Your dietitian can help you figure out the right combination and amount of protein to eat.



High Fat Foods

The right level of **potassium** keeps your nerves and muscles working well. With CKD, too much potassium can build up in your blood and cause serious heart problems. Oranges, potatoes, tomatoes, whole-grain bread, and many other foods are high in potassium. Apples, carrots, and white bread are lower in potassium. Your doctor may prescribe a potassium binder, a medicine that helps your body get rid of extra potassium.

Phosphorus is a mineral that keeps your bones strong and other parts of your body healthy. Your kidneys can't remove extra phosphorus from your blood very well. Too much weakens bones and can damage your blood vessels, eyes, and heart. Meat, dairy, beans, nuts, whole-

grain bread, and dark-colored sodas are high in phosphorus. Phosphorus is also added to lots of packaged foods.

Focus on fresh, homemade food to better control the amount of sodium in your food. Eat only small amounts of restaurant food and packaged food, which usually have lots of sodium. Look for

Beverages

Recommended: Water, diet clear sodas, homemade tea or lemonade sweetened with a low calorie sweetener

Limit or Avoid:

Regular or diet dark colas, beer, fruit juices, fruit-flavored drinks, bottled or canned iced tea or lemonade containing sugar, syrup, or phosphoric acid; tea or lemonade sweetened with sugar

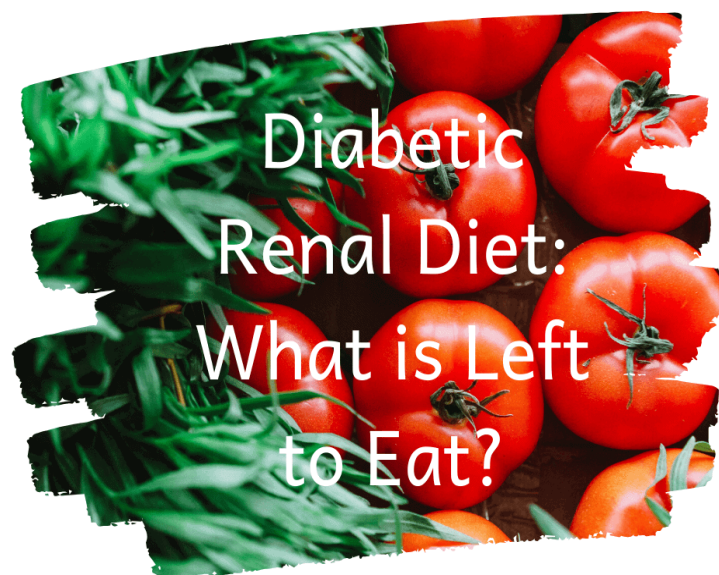
Limit or avoid the following sweet and salty foods:

Candyc, Chocolate Regular sugar, Syrup, Honey, Molasses, Baked goods, Ice cream, Canned foods, Condiments, Onion, garlic or table salt, TV dinners, Meat tenderizer, Marinades, Nuts, Pizza, Salted chips and snacks.

Its better for a DKD patient to consult a dietician to create a meal plan.

low sodium (5% or less) on food labels.

With a CKD diet, you'll avoid or limit certain foods to protect your kidneys. You'll include other foods to give you energy and keep you nourished. Your specific diet will depend on whether you're in early-stage or late-stage CKD or if you're on dialysis.



Gut microbiome plays a key role in managing type 2 diabetes

Sent from Lahore by: Dr. Ifra Nasir

How is the gut microbiome connected to type 2 diabetes? The researchers has suggested that type 2 diabetes is related to the dysfunction of the pancreas' beta cells. There are multiple pathways involved in the dysfunction of beta cells and that the gut microbiome can be part of this process. Clinical data suggests that the gut microbiome affects the development of high blood sugar.



bacteria proportions and declines in species diversity. Body responses, medications, and the Western diet can affect the gut microbiome. The paper even notes that oral antidiabetic medications can affect gut microbiota.

The gut microbiome further creates certain metabolism products that affect other body functions, like the immune system response and the gut barrier. Bile acids that are a metabolism product of the gut microbiome are affected in people with type 2 diabetes.

Researchers highlight the role of the gut microbiome in the “egregious eleven,” or the pathways that ultimately lead to beta cell dysfunction. The gut microbiome is likely affected by antidiabetic drugs, and evidence suggests that metformin can improve the gut microbiome. Similarly, the gut microbiome can impact the effectiveness of antidiabetic medication. The cited evidence also suggests that the gut microbiome could explain some of the adverse effects of metformin use.

The gut microbiome refers to the microorganisms in the digestive tract, such as bacteria and viruses. The gut microbiome is involved in many systemic metabolic processes, and researchers are conducting more studies to understand its involvement in metabolic disease development. Many ancestral bacterial species have been lost over the years, leading to problems like metabolic diseases. There has been a decrease in gut microbiome diversity, likely related to medication use and Western lifestyle. This lack of diversity in the gut microbiome is related to the increase in type 2 diabetes.

Previous research has noted the changes to the gut microbiome in people with type 2 diabetes, such as changes in

Gut microbiota functions like an endocrine organ, influencing which nutrients are metabolized and absorbed. This interaction affects critical aspects of the egregious eleven, ranging from IR [insulin resistance] in the liver, muscle, and adipose tissue to the growth and function of the pancreas itself. Therefore, the composition of the gut microbiota plays a central role in type diabetes pathogenesis and management. Us-

ing prebiotics and probiotics could benefit people with type 2 diabetes. The use of fecal microbial transplantation to improve diabetes outcomes. There is a lot of variation in gut microbiomes in people with type 2 diabetes, which suggests the need for individualized approaches.

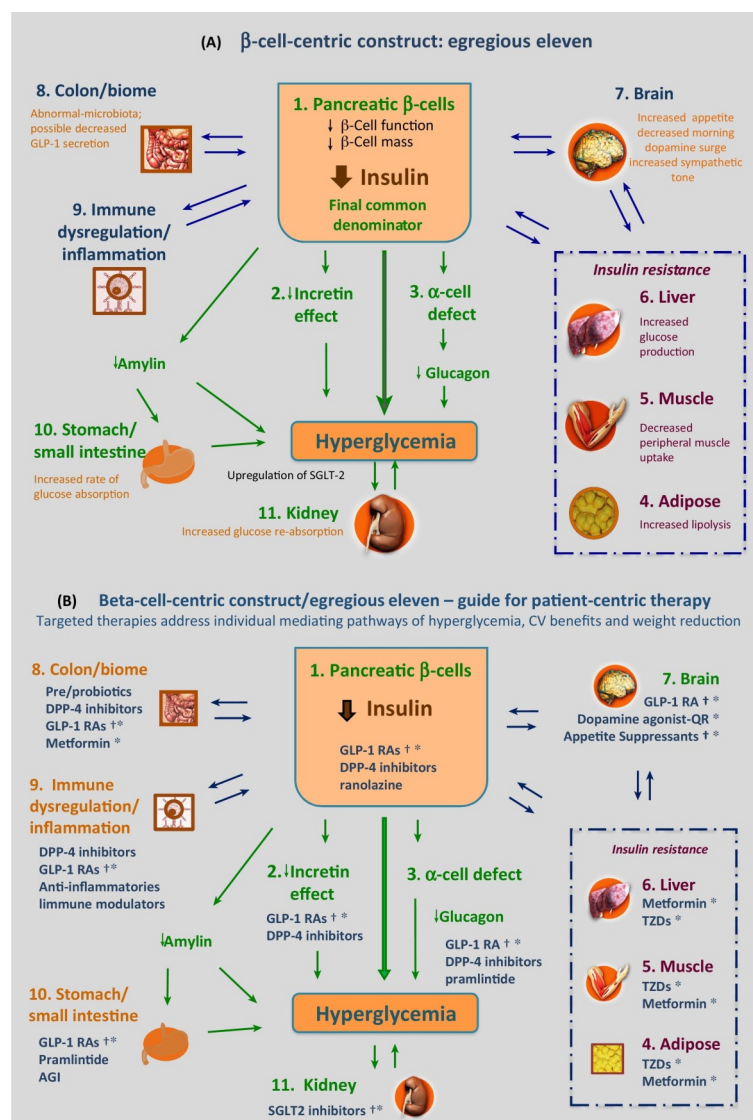
Three clinical implication areas:

1. Personalized treatment plans: Developing personalized treatment strategies based on a patient's gut microbiota profile. This could include tailored dietary recommendations, specific probiotic or prebiotic supple-

ments, and possibly FMT [fecal microbial transplantation] to restore healthy gut microbiota.

2. Microbiota modulation: Integrating gut microbiota modulation into existing treatment plans for T2DM, such as adjusting medication based on how it interacts with the patient's microbiota to enhance efficacy and reduce side effects.

3. Diagnostic tools: Utilizing advanced diagnostic tools that analyze a patient's gut microbiota to predict disease progression and treatment response, thereby enabling more targeted and effective interventions.



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