Online Newsletter of Primary Care Diabetes Association Pakistan— April 2025

## PreventionFirst Issue-20 Volume-1

## Record-Breaking Footfall at PCDA's Stall in the Global Village of IDF Bangkok





## Primary Care Diabetes Association Pakistan



## Crowd Magnet: PCDA Stall Shines at IDF Congress in Bangkok

Primary Care Diabetes Association Pakistan (PCDA) is deeply committed to international collaboration and excited about the opportunity to work alongside other IDF member organizations to combat the global diabetes epidemic.

At the PCDA's stall in Bangkok visitors from all over the world were informed about PCDA's work in the field of prevention and quality care of the people with diabetes.

PCDA is confident that our IDF membership will enhance our capacity to deliver high-quality diabetes care and advocacy, further strengthening our impact in the fight against diabetes.



## PCDA's Stall Steals the Spotlight at Global Village if IDF'25

"The overwhelming response to our The IDF congress has always been "The remarkable engagement at our stall presence at the IDF Congress 2025 reflects the global shift toward integrated, patient-centered care — a vision that PCDA has championed for years. We are proud to see primary care take its rightful place at the forefront of diabetes prevention and management. Our participation not only showcased Pakistan's commitment to advancing primary healthcare but also strengthened our collaborations with international partners for a healthier future."

PCDA's experience in primary-level diabetes prevention has been recognized by the global community, and Pakistan can offer valuable insights, particularly in managing diabetes in resource-limited settings.

Visitors at the Global Village of IDF Bangkok were briefed about the efforts dation in 2016.



helping foster the collaborations, connections and political actions required to place diabetes at the top of the global health agenda, improve the lives of peo-

during IDF 2025 is not just a recognition of the role of primary care — it is a call to action. As the burden of diabetes continues to rise globally, the future of ef-



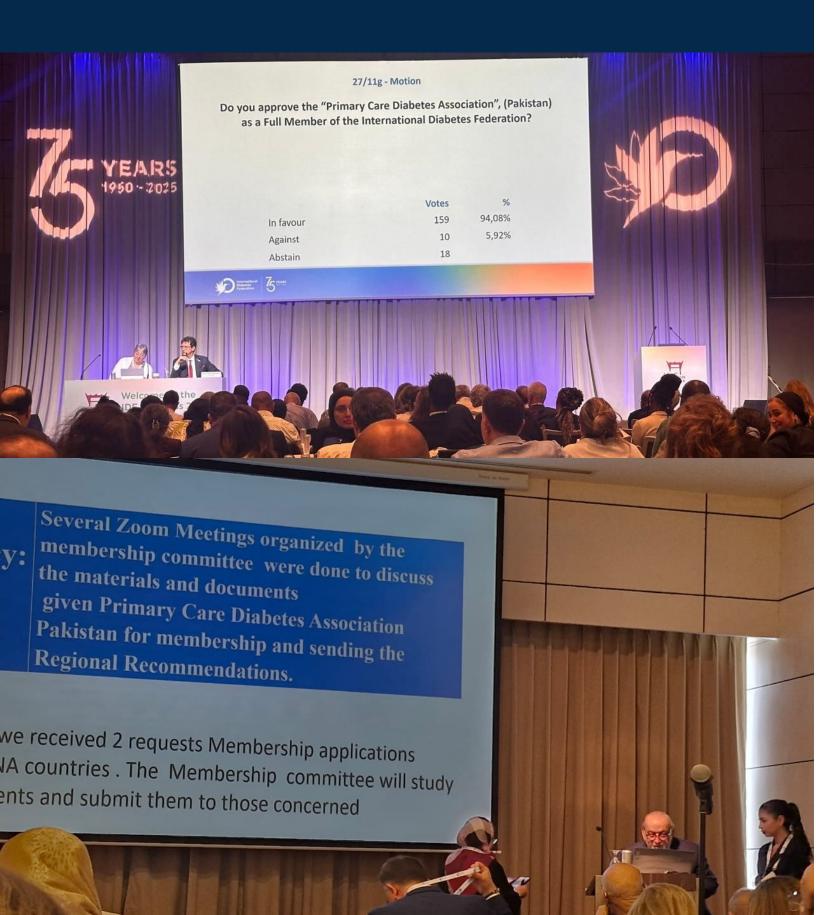
ple living with diabetes and prevent diabetes in those at risk.

Diabetes Congress ranks as one of the largest global medical meetings covering all facets of diabetes. Participants from across the globe meet to learn about a broad range of diabetes issues, from the latest scientific advances to cutting-edge information on education, through the lens of primary care." diabetes care, advocacy and awareness.

fective prevention and long-term management lies in empowering frontline made by PCDA Pakistan since its foun- Held every two years, the IDF World healthcare systems. At PCDA Pakistan, we are committed to leading this transformation by investing in education, innovation, and international collaboration. We invite all stakeholders — clinicians, policymakers, and educators — to join us in redefining diabetes care



## PCDA Gets Full Membership of IDF 94.08% votes in Favor.

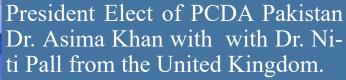


President of IDF, Dr. Peter Schwartz with Prof. Abdul Basit and Dr. Asima Khan at the occasion of IDF Congress 2025 held in Bangkok, Thailand from 7 to 10 April 2025.

Professor Abdul Basit (M.B.B.S, M.R.C.P. (UK), F.R.C.P. (UK), F.R.C.P. (Edin)) is the Director of Indus Diabete]s & Endocrinology Center (IDEC) He is Secretary General of the Diabetic Association of Pakistan (DAP), WHO Collaborating Centre and Former-chair of IDF MENA Region.

Commenting about PCDA's stall in IDF congress he said "The overwhelming response to our presence at the IDF Congress 2025 is a clear signal that the global healthcare community is ready to embrace a new era — one where primary care is empowered to lead the fight against diabetes. In Pakistan, we have witnessed firsthand how strengthening frontline healthcare systems can transform outcomes. But our work is far from over. We must now scale these efforts, invest in grassroots education, and integrate technology to make primary care more responsive and patient-centered. I urge our partners across the world to join us in this movement — because the future of diabetes care begins where it matters most: at the primary care level."





Dr. Niti has been elected as President-Elect and will assume the presidency in 2027.

As of April 2025, the International Diabetes Federation (IDF) has appointed several Vice Presidents for the 2025–2027 term. The Vice Presidents are

Prof. Jacko Abodo (Ivory Coast)

Dr. Hermelinda Pedrosa (Brazil)

Ms. Erum Gafoor (Pakistan)

Ms. Jane Giles (Australia)

Dr. Jackie Maalouf (Lebanon)

Mr. Kyle Jacques Rose (France)



Glimpses of the stall of PCDA Pakistan



Glimpses of the stall of PCDA Pakistan



Glimpses of the stall of PCDA Pakistan







## PAKISTAN STREET IN THE GLOBAL VILLAGE OF IDF CONGRESS'2025 IN BANGKOK, NAMED SO BECAUSE OF FIVE STALLS FROM ANY SINGLE COUNTRY



Joint Secretary PCDA Pakistan, Dr. Pawan Kumar with the President IDF, Dr. Peter Schwartz



Dr. Muhammad Mohsin Raza of Rahimyar Khan Chapter of PCDA Pakistan, with the President IDF, Dr. Peter Schwartz



## **Primary Care Diabetes Association**

## **Pakistan**



## What is PCDA?

Primary Care Diabetes Association (PCDA) Pakistan is a Non-government and non-profit organization registered in 2018 with Department of Social Welfare, Government of Sindh province of Bokistan PCDA has been at the of Pakistan. PCDA has been at the forefront of diabetes care in Pakistan for last 16 years. It has been working in the field of diabetes prevention and education, in more than sixty cities and towns of Pakistan.

Some of the main frontiers of our endeavors are:

 Screening of the people at high risk.
 Awareness sessions for primary prevention

c. Awareness sessions for the people with diabetes.

with diabetes.
d. Educating people with diabetes about prevention of complications.
e. Updating the knowledge of diabetes treating physicians through small RTDs in their hometowns.
f. Periodical meetings of the PCPs at provincial and national levels.
g. Annual & Biennial symposia of international standards.
PCDA's mission is to enhance the

PCDA's mission is to enhance the quality of primary diabetes care through education, advocacy, and research. We have initiated several impactful programs e.g. 1. STEP (Students Taskforce for

1. STEP (Students Taskforce for Education and Public Health), 2. DEW (Diet and Education Wing), 3. SEED (A screening and research project of PCDA) & 4. Rakkho Apna Khayal (A project of primary prevention)

primary prevention)
5. Diabesity (A project about obesity)

6. Diabetes Control-Zindagi Anmol (A project of screening & data collection) These projects and many more community outreach initiatives, diabetes education seminars, and clinical training workshops have clinical training workshops have significantly improved diabetes awareness and management among healthcare providers and patients alike.

We also try to reach the healthcare providers through media (print & electronic). Our online newsletter with the title of "Prevention First Newsletter" is very regularly released every month, (https://pcdapak.org/print-media/)which includes the coverage of the academic activities of all the PCDA chapters across Pakistan. It also includes updates and guidelines about diabetes and related topics. The HCPs are frequently accessed through various social media groups also.

For patients, PCDA regularly releases Informative booklets and leaflets about diabetes and its complications in national and local languages. Especially during special conditions like in the month of Ramadan and during Hajj pilgrimage the people with diabetes are trained for self-care to minimize chances of grave complications. Again, these guidelines are chiefly derived from IDF sources.

The PCDA closely aligns with the IDF's mission to promote diabetes care, prevention, and a cure globally. On October 10, 2024, PCDA's application for IDF membership was approved. By joining IDF, we aim to contribute to and benefit from the global exchange of knowledge and best practices.



## PCDA Symposium'24: A resounding sucess

Our experience in primary-level diabetes prevention has been recognized by the global community, and Pakistan can offer valuable insights, particularly in managing diabetes in resource-limited settings.

We are deeply committed to international collaboration and excited international collaboration and excited about the opportunity to work alongside other IDF member organizations to combat the global diabetes epidemic. In line with this commitment, PCDA Pakistan has established a collaboration with D-Foot International, a distinguished organization guiding us in training healthcare professionals on the prevention and management of diabetic foot complications. We are diabetic foot complications. We are confident that our IDF membership will enhance our capacity to deliver

high-quality diabetes care and advocacy, further strengthening our impact in the fight against diabetes.

8th International PCDA Symposium concluded at the Movenpick Hotel Karachi on Sunday, February 18th, 2024, after two days of engaging discourse. With over 600 attendees from Pakistan and abroad, the symposium garnered acclaim as a recogniting success. Benuvned experts resounding success. Renowned experts delivered state-of-the-art lectures on diabetes-related topics, while lively panel discussions and extensive Q&A essions fostered intellectual exchange. The attentive audience further underscored the event's significance, solidifying its position as the premier gathering in Karachi for 2024.



## PCDA's Commitment to Advancing **Primary Healthcare for Diabetes** Management

The Primary Care Diabetes Association (PCDA) has made remarkable strides in strengthening primary healthcare for diabetes management, significantly impacting patient care and public



Prof. Abdul Basit's Leadership

The PCDA Symposium 2024 was honored by the presence of Prof. Abdul Basit as the chief guest. A highly respected diabetologist and endocrinologist, Prof. Basit has long been a champion of diabetes prevention in Pakistan. As the Patron and Mentor of PCDA and Secretary General of the Diabetic Association of Pakistan (DAP), his contributions to diabetes care, prevention, and treatment-both nationally and globally-are unparalleled.

In his address, Prof. Basit emphasized the crucial role of the primary care sector in addressing the alarming prevalence of diabetes in Pakistan. He commended PCDA's efforts in raising awareness and enhancing diabetes prevention and management at the community level. He also highlighted how PCDA has empowered primary care physicians (PCPs), equipping them with skills to handle cases at a level that even overlaps with secondary care. At the previous PCDA Symposium, Prof. Basit had welcomed a key recommendation by Prof. Zia ul Haqthe need for stronger collaboration between institutions and organizations working towards similar objectives. He reiterated that PCDA is uniquely positioned to bridge the gap between primary care providers and tertiary care institutions. He acknowledged the organization's success in fulfilling this role and emphasized the need to further strengthen these linkages.

Prof. Basit also extended his appreciation to Dr. Riasat, Dr. Zahid Miyan, Dr. Asima Khan, Dr. Fareeduddin, and the entire PCDA Pakistan team for their unwavering dedication, commitment, and hard work. He recognized their sincere efforts in advancing PCDA's mission and serving the medical community with integrity.

## Breaking Barriers in Diabetes

In his opening address at the preliminary session, Prof. Basit underscored the urgent need to break barriers in diabetes control. He acknowledged that PCDA is actively striving to eliminate these obstacles despite the resource constraints faced Pakistan's healthcare system. He identified several key barriers to effective diabetes management, including:

Limited healthcare infrastructure -

Inadequate hospitals, clinics, and trained healthcare professionals result in long wait times, restricted access to specialists, and insufficient monitoring and treatment.

Lack of access to essential medications and supplies – The high cost and limited availability of insulin, blood glucose monitors, and test strips make diabetes management challenging for many patients.

Low health literacy - A lack of awareness about diabetes, its complications, and self-management strategies prevents individuals from effectively controlling their blood sugar

Insufficient training for healthcare providers – Many doctors and nurses lack specialized training in diabetes management, leading to suboptimal care and poor patient outcomes. ? Socioeconomic challenges – Factors such as poverty, unemployment, and food insecurity contribute to unhealthy lifestyle choices, making diabetes control even more difficult.

? Limited public health initiatives -Due to budgetary constraints, many essential diabetes prevention, education, and early detection programs are either underfunded or unavailable.

Prof. Basit stressed that overcoming these barriers requires collective efforts from healthcare professionals, policymakers, and organizations like PCDA. He reaffirmed that PCDA is on the right path, actively addressing these challenges and working towards a stronger, more accessible diabetes care system in Pakistan.



## **Why Primary**

Pakistan is a resources deficient country, Falsaan is a resources deficient country, and we can not establish big tertiary care centers for dealing with the complications of diabetes That's why we believe in the prevention is cost effective way of reducing the horrifying numbers in terms of prevalence of diabetes. The primary care sector acts as the foundation of diabetes prevention and control by focusing on early intervention, patient education, and continuous care. Strengthening primary care services can significantly reduce the burden of diabetes and improve health outcomes worldwide.

The primary care sector plays a crucial role in the prevention and control of diabetes, as it serves as the first point of contact for individuals seeking healthcare. It helps in early detection, continuous management, and patient education, reducing complications and improving quality of life

Why primary care? Because it ensures early detection and screening of diabetes early detection and screening of diabetes by conducting routine screenings for high-risk individuals (e.g., those with obesity, family history, or sedentary lifestyles). Primary care sector is also important for diagnosing pre-diabetes and diabetes early, enabling timely interventions. At primary care sector we can do patient education and lifestyle modification more effectively, as by educating patients on healthy eating educating patients on healthy eating habits, physical activity, and weight management ensures prevention or delay diabetes onset.

PCPs play a crucial role in breaking barriers in diabetes control through screening, diagnosis & education.





## STEP: A **Powerful Force** in Combating Diabetes in Pakistan

Student Taskforce for Education & Public Health (STEP) is the youth wing of the Primary Care Diabetes Association Pakistan, dedicated to raising awareness, providing education, and advocating for the management of Type 2 diabetes mellitus and other non-communicable diseases (NCDs).



As an integral part of PCDA, STEP has played a crucial role in early prevention and awareness initiatives, ensuring the association's effective outreach. The young volunteers of STEP lead by example, adopting healthy lifestyle habits themselves while encouraging others to do the same. Through social media campaigns, school programs, and community initiatives, STEP has successfully spread awareness to a broad audiance.

### Youth-Led Influence & Impact

One of STEP's key strengths is peer influence. People, especially the youth, influence. People, especially the youth, are often more receptive to messages delivered by their peers than by adults. By promoting healthy habits such as regular exercise, balanced diets, and routine check-ups, STEP volunteers help instil long-term lifestyle changes. In addition, young individuals with diabetes frequently face stigma and mental health challenges. Recognizing this, STEP has established peer support groups, counselling services, and mentorship programs to help them manage their condition more effectively.

### Innovation & Technology in

Diabetes Awareness With tech-savvy volunteers, STEP has significantly contributed to PCDA's digital initiatives. The team has helped develop mobile apps, digital campaigns, and online resources for diabetes education and management. Leveraging social media platforms, podcasts, and YouTube channels, STEP ensures that diabetes awareness reaches diverse and widespread audiences. Furthermore,





STEP serves as a training ground for future leadership within PCDA. By nurturing young volunteers today, the organization ensures a steady pipeline of passionate and knowledgeable leaders for the future.

Community Outreach & Advocacy

STEP's young volunteers actively organize fundraisers, awareness walks, and community outreach programs to support diabetic patients. They also advocate for improved healthcare policies and better access to affordable diabetes care.

Research & Data Management STEP plays a pivotal role in PCDA's research and innovation efforts. Young research and innovation efforts. Young medical professionals contribute to surveys, data collection, and research projects aimed at improving diabetes management. One of the key objectives of PCDA's Free Medical Camps is collecting health data from the general public. This initiative would not be possible without the dedicated near any part of without the dedicated peer support of STEP volunteers. They assist in filling prescribed research forms designed by Dow University of Health Sciences' Research Department, ensuring that valuable health data is carefully recorded and analyzed.

## Sustaining Awareness, Engagement & Leadership

& Leadership
STEP has proven its value in sustaining
awareness, engagement, and leadership
within PCDA. By empowering young
individuals to take charge of their health,
STEP contributes to the long-term success
of diabetes prevention and management
efforts in Pakistan.

Originally conceived by Dr. Asima Khan, President-elect of PCDA Pakistan, STEP was founded and established by Dr. Izhan was founded and established by Dr. 12han Ali Khan, who played a pivotal role in its growth. Now, under the leadership of Dr. Fariha Shakeel, Executive Head of STEP, the initiative continues to thrive. Key contributors to its success include Muhammad Saud Abbasi, Nuhail Khan, and Owisi Born. and Owais Raza.

Through its commitment to education, innovation, and advocacy, STEP continues to shape a healthier future for Pakistan.



Diet and diabetes education significantly reduces the risk of developing diabetes and helps individuals with diabetes management effectively. By making informed choices and adopting a proactive approach, individuals can lead healthier lives and prevent complications. A well-balanced diet helps to regulate blood sugar levels, prevents complications, and improves overall health.

Diet and education play crucial roles in both the prevention and management of diabetes.

A healthy diet can reduce the risk of A neathy diet can reduce the risk of developing type 2 diabetes by maintaining a healthy weight and preventing insulin resistance. For individuals with diabetes, proper nutrition helps stabilize blood glucose levels, reduce complications, and enhance well-being.

To achieve these goals, PCDA Pakistan constituted a wing (DEW) composed of highly professional dieticians and diabetes educators.

This wing is headed by Miss. Rabiyya Tirmizi, a well renowned and learned dietician of the country.

## **DEW:** (Diet & Education Wing) of PCDA

Team PCDA understands the Importance of Diet in Diabetes Prevention and Management along with proper education.

Mrs. Siama Mujahid who is IDF certified educator, has been assisting in public awareness programs arranged by DEW.

Education empowers individuals to ensure in making food choices that maintain stable blood sugar levels. Educating individuals about the importance of exercise and weight importance of exercise and weight control,try to educate in carb counting, recognizing symptoms of hypo and hyperglycemia. Awareness of symptoms enables people for early intervention and prevention in further complications. Dr. Qazi Mujahid has been the head of this precious wing since its constitution. He has arranged several sessions on diet and diabetes education for the people living in remote areas of the country.



## PCDA Women Wing

Women are the essential component of PCDA Pakistan and its major wings like STEP and DEW. Yet the need of a separate wing for women was felt, and during the meetings of the executive committee of PCDA this issue was discussed and decisions taken. It was realized that a separate wing for women in a diabetes association ensures that their specific health, social, and psychological needs are addressed. It romotes better education, targeted interventions, and improved overall care, ultimately enhancing the quality of life for women with or at risk of diabetes. Ultimately, last year a separate wing for the women was constituted.

Women with diabetes have a higher risk of depression and anxiety, requiring gender-sensitive psychological support. In the most parts of Pakistan, women have limited access to healthcare, education, or financial independence, making targeted programs necessary.

PCDA's women wing is providing education on diabetes risks related to pregnancy, menopause, and PCOS. It is also creating spaces where women can share experiences and receive peer support can improve disease management. Tailored programs focusing on women's health needs is improving treatment adherence and outcomes











## PCDA collaborates with the Global Organizations

An MOU between PCDA and SLiP was signed in the presence of Dr. Zulfiqar G. Abbas, president of the D-Foot International on the 1st. day of NADEP Diabetes Foot Con'2023 held in Ho tel Moven Pick Karachi Pakistan from 25th-27th of August 2023.



PCDA Pakistan is now member of International Diabetes Federation (IDF). Biennial IDF Congress has always been a priority event of learning for the doctors from Pakistan, interested in the quality care of diabetes.

President IDF. Dr. Peter Schwartz has been very kind to the diabetes organizations of Pakistan. During his last visit to Pakistan, PCDA cabinet headed by then president, Prof. Dr. Zahid Miyan, had an opportunity to have a detailed meeting with him regarding the efforts PCDA Pakistan is doing in the field of prevention and quality care of the people with diabetes.

Prof. Abdul Basit, Dr. Riasat Ali Khan, Dr. Asima Khan and Dr. Shahid Akhter were among those who discussed with the president IDF regarding developing





strong collaborations with the esteemed global organization.

This MOU will help to implement standard of care and timely referral which may help to reduce avoidable amputations in Pakistan.

Dr. Zulfiqar G. Abbas was the chief guest of the ceremony, and the signatories of the MOU (Memorandum of Understanding) were Dr. Saif ul Haque, General Secretary of SLiP (Saving Limbs in Pakistan), and Dr. Riasat Ali Khan, President of PCDA.

Dr. Zahid Miyan, Past President of the Primary Care Diabetes Association-Pakistan (PCDA), introduced the Fast Track Program in 2022 in Pakistan with the aim of reducing avoidable amputations.

During the meeting the current issue of the PCDA Newsletter was presented to Dr. Peter Schwartz. He liked and praised the PCDA Pakistan for the efforts in spreading the awareness of diabetes among masses, and updating the HCPs in knowledge.



## Rakho Apna Khayal - Diabetes Se Pehlay

A Project of PCDA

PCDA (Primary Care Diabetes Associa tion) in collaboration with School of Public Health DUHS and Martin Dow Marker has initiated the campaign Rakho Apna Khayal, Diabetes Se Pehle"

is a one-of-a-kind کواپاخیال ذیا کشی ہے پہلے campaign in Pakistan to spread awareness of Prediabetes.



The objective of المُوانِّا خَلِ الْزَالِيُّ مِنْ مَا يَسُلُّ نَا لَهُ الْمَالِيُّ لَا مَا يَسُلُّ is to collect real data about Prediabetes and T2DM, and to slow down the rapid increase people with diabetes in Pakistan.

The target audiences of the campaign are general public (social media pages and camp activities), healthcare profes sionals (Seminar, Symposium) and medical university students.

Activities at national level, "Train the Trainer" programs, Seminars/Symposiums, Mega camps, Routine camps, Medicine, Diabetes Education (3500), HbA1c test (150), 185 camps on WDD, Awareness activities in various shopping malls, grounds and universities, Awareness programs in various medical universities of Pakistan. Social Media Pages (Facebook, Instagram, Youtube, Twitter).

Rakho Apna Khayal Diabetes Se Pehle" arranged prediabetes swareness campaign, consisting of 250 seminars involving 2500 healthcare professionals in the main cities of Pakistan (Karachi, Lahore, Islamabad, Hyderabad, Peshawar and Gujranwala).



## "Diabetes Pakistan" Conference in Faisalabad sets new records





## Projects of PCDA Pakistan

## SEED: Screening of outreach for discovering Diabetes

On the occasion of 75th Independence Day, Primary Care Diabetes Association (PCDA) in collaboration with PharmEvo have took another step towards a Healthier Society, i.e. SEED, an initia tive 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 metabolic disorder which is spreading like a fire i.e. Diabetes. Members at PCDA & 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 Paki stanis in a year in order to diagnose dia betic 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 de briefed 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.

Dr Riasat discussed the need to this screening project & overview of the whole project along with previous key contribution by PCDA toward society as well as shared the vision of PCDA to ensure the prevention from diabetes. Mr. Jamsheed further shared his thoughts about the campaign & highlighted the vision of PharmEvo & how PharmEvo is devising ways to combat this disease along with preserving the nature for a better & healthier society. Mr. Abdus Samad give vote of thanks before closing the ceremony & at the end of the ceremony, participants initiated this drive by planting a plant.







## Diabetes Control-Zindagi Anmol

This is comparatively a new project of PCDA Pakistan. Under this program, one million persons from all parts of the country are planned to screen for diabetes, hypertension and dyslipidemia. Till now more than 50 screening programs have been arranged by the chapter heads of various cities and towns.







## Train Ride Under "Journey To Defeat Diabetes"

A Project of PCDA

Under the visionary leadership of Dr. Pawan Kumar, the Sindh Chapter has emerged as a standout performer, organizing impactful awareness and screening programs throughout the province.

In a groundbreaking initiative, the Sindh Chapter recently launched the "Train Ride" as part of its ambitious "Journey to Defeat Diabetes" project. This unique campaign, organized in collaboration with Pakistan Railways, Searle Pharmaceuticals, the Chamber of Commerce and Industry Larkana, the Sindh Health Department, the Pakistan Medical Association (PMA), the Larkana Press Club, and several community-based non-profit organizations, brought diabetes education and screening directly to the public in a creative and accessible manner.

The PCDA remains steadfast in its mission to empower communcities with the knowledge and tools needed to combat diabetes. ultimately striving for a healthier

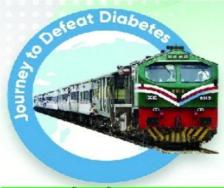
The journey by Mohenjo Daro Express started from the platform #3 of the Rohri station, on the early morning of Sunday 22nd.

December 2024, amid freezing cold breeze. The Team PCDA from Karachi after an eight hour long rail ride, had just reached Rohri station hby Greenline Train an hour ago. They could have only a running breakfast because of very short space of time left. The passengers waiting for their trains and the railways staff were screened for diabetes and hypertension on the Screening Desk. Their blood sugar and blood cholesterol were tested and the diagnosed persons were consulted by the Team PCDA doctors. Media persons from the print and electronic media were there to cover the event.

Larkana Chamber of Commerce And Trade collaborated with Dr. Pawan Kumar in arranging screening camps at all the stations, in facilitating the doctors and paramedics running the camps. Some important persons from Larkana Chamber of Commerce And Trade were:

Mr. Khair Muhammad shaikh, President Chamber of Commerce and Industry Larkana. Mr. Ahmed Ali Shaikh-Ex.President Chamber of Commerce and Industry Larkana, Mr Haresh lal, Senior Vice president, Mr Shamshad Ahmed Shaikh, Hafiz Suleman Shaikh, Executive members, Mr Nawal Rai

Member Senior central committee of Chambers and commerce and industry. Om Kumar Member and others chamber of commerce and industry were present.







## WDD'24 Well-Being Badminton Tournament PCDA Pakistan

On the occasion of World Diabetes Day this year, PCDA Pakistan organized a Badminton Tournament at Nazimabad Badminton Tournament at Nazimabad Karachi, as a part of its ongoing efforts to combat diabetes and promote its prevention. The event aimed to encourage healthy physical activities among the community, fostering awareness about the importance of an active lifestyle in managing and preventing diabetes. Near all the cabinet members of PCDA Pakistan along with their families and friends participated their families and friends participated enthusiastically making the tournament a success in promoting fitness and wellbeing.

Experts say that Sports and physical activity can be important for people with diabetes because it helps cells absorb glucose from the blood, which can lower blood glucose levels. It also improves the body's sensitivity to insulin, which allows more glucose to be absorbed into cells. Sports activities also strengthen the cardiovascular system and lower blood pressure. People who walk at least two hours a week are less likely to die from heart disease. Exercise can help with weight management and can help reduce stress. Exercise can improve overall quality of life. Sports can enhance cognitive development through memorization, repetition, and skill set learning. Sports can help build strong and toned muscles.

The winner teams of the qualifying round then played next round through



which finalist teams were decided. The first finalist team was Dr. Riasat+Usama; and the second on was Nayyer+ Ahmed the tournament and Nayyer+ Anned the tournament and contested with each other. The activity was fully supported by the area people. Dr. Asima Khan was the chief referee with 3 assistants, who did her job very honestly.

The final was played as if BWF World Championships is being played. It took about 25 minutes to finish. And finally about 25 minutes to finish. And finally team comprised of Ahmed and Nayyar won the final, leaving the team of Dr. Riasat and Usama as Runners. After the final match a friendly match was played between Dr. Zahid Miyan's team and Dr. Fareed's team. The audience enjoyed it a lot.

The Winners and Runners Trophies

Team PCDA renovates abandoned park and inaugurates Badminton Court PCDA, in collaboration with the Local Government and Administrative Offices, has successfully renovated a park in Nazimabad to promote a healthier lifestyle among residents. As part of this initiative, a badminton court part of this initiative, a badminton court has been inaugurated to encourage physical activity and community engagement. This project reflects PCDA's commitment to combating lifestyle-related diseases like diabetes by fostering active living and wellness. Nazimabad Town.



were awarded by the chief Guest Dr. Zahid Miyan, who praised the enthusiasm and eagerness of the players. Dr. Zahid Miyan congratulated team PCDA for organizing this very healthy activity. He commended the efforts made by Dr. Fareeduddin in the renovation of the park to promote thee healthy activities in the city. This is exactly in accordance with the IDF slogan of the year "Well-Being and Diabetes"

Dr. Fareeduddin, Dr. Riasat, Dr. Asima Khan, Dr. Iqbal Batavia, Dr. Shakeel, Dr. Shahid Akhter and Mr. Faraz from Scilife-Pharma also expressed their views in the trophy distribution ceremony.

## Newly Elected Cabinet of PCDA Pakistan



Dr. Riasat Ali Khan



Dr. Iqbal Batavia



Dr. Pawan Kumar



Dr. Asima Khan President Elect





Dr. Qazi Mujahid

## Supreme Council





Dr. Najum F. Mehmudi (Member)



Dr. Zahid Miyan (Member)

Social: Dr. Majid Khan (Head) Dr. Sohail Shokat

Publication: Dr. Sulaiman Khan (Head) Dr. Ifra Nasir Dr. Zahoor Shaikh Nohail Ahmed (STEP)

## Membership: Dr. Ashraf Rahe Dr. Azeem m (Head) Dr. Azeem Dr. M. Irfan Shaikh Saud Abbasi (STEP)

Media: Dr. Shakeel Ahmed (Head) Dr. Naseer Shaheen Dr. Nizam Darwesh Dr. M. Irfan Safi Rizwi







## **Newly Elected Cabinet of PCDA Pakistan**



## Message by the newly elected cabinet of PCDA Pakistan

Dear Friends,

On behalf of all members of the newly elected central cabinet of PCDA Pakistan, we extend our sincere gratitude to each and every one of you for your kind words and heartfelt congratulations. Your messages of support and encouragement mean a great deal to us as we embark on this important journey.

We deeply appreciate your trust and confidence in us. With your support, we are committed to working tirelessly for the progress and betterment of our community and organization. Together, we will strive to achieve our shared goals and make a meaningful impact.

Once again, thank you for your warm wishes. We look forward to your continued support and collaboration in the days ahead.

Best regards,

Dr. SHAHID AKHTER, (General Secretary), On behalf of the Central Cabinet of PCDA Pakistan



## Dr. Muhammed Irfan Shaikh reports from Multan Chapter of PCDA

Head of Multan Chapter of PCDA Pakistan, Dr. Muhammed Irfan Shaikh was the speaker in two RTDs for the area doctors on the topics of "The management of Type-2 Diabetes" and "Irritable Bowel Syndrome". The sessions were very informative, interactive and well attended but he HCPs of Multan and adjacent areas.





## Free Sugar Camp arranged by Dr. Muhammed Irfan Shaikh, head of Multan Chapter of PCDA





## Dr. Nazeer Soomro reports from Jacobabad Chapter of PCDA

Free Medical Camps at Civil Hospital Jacobabad is a routine for a long time. An exemplary act of dedication and dedication to the noble profession of medical practice. Hats off for Dr. Nazeer Soomro





## Dr. Sohail Shokat reports from Sahiwal Chapter of PCDA





## ساسی ،ساجی اور مذہبی شخصیات کی کثیر تعداد نے شرکت کی افطار ڈنر میں شوگر کے مریضوں کومفت انسولین کی فراہمی کے لئے عطیات کی اپیل کی گئی

آ ف كامرس كاشف رياض اور حافظ احمه فاروق نے دکھی انسانیت کی خدمت پرالفلاح فانڈیشن كفتظمين كاشكر بيادا كيااور حاضرين كوعطيات وييخ برا بھارا۔

دئے گئے تقریب کے متطمین اے ڈی چو ہدری اورآ صف محمود كمبوه الدوكيث في شركا كاشكر بدادا کیا۔تقریب سے خطاب کرتے ہوئے شوگر سپیشلسٹ ڈاکٹرسہیل شوکت،سابق صدر چیمبر

شرکت کی افطار ڈنر میں شوگر کے مریضوں کو مفت انسولین کی فراہمی کے لئے عطبات کی ا پیل کی گئی جس بر مخیر حضرات کی طرف سے نقار اور دعدول کی صورت میں لا کھوں رویے ڈونیشن

ساہیوال ) بیورو ریورٹ فاؤنڈیشن ساہیوال کے زیراہتمام چئیرٹی افطار وز کا اجتمام کیا گیا جس میں شہر بھر سے سیاسی ،ساجی اور مذہبی شخصیات کی کثیر تعداد نے













فلاح فاؤنڈیشن ساہیوال کے زیراہتمام چئیر ٹی افطارڈ ز



س میں شر مجر سے سیا ک اما تی اور فد ہی شخصیات کی کثیر تعداد نے شرکت کی افطار ڈا یں شوگر کے مریضوں کو مفت انسولین کی فراہی کے لئے عطیات کی ائیل کی گئی





## Dr. Sulaiman Khan reports from Kohat Chapter of PCDA

## **Original Article**

Thyrotoxicosis: What is the Cause in Our Population?

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## Original Article

Thyrotoxicosis: What is the Cause in Our Population?



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## ABSTRACT

Thyrotoxicosis is an endocrine disorder in which excess amount of thyroid hormone is secreted in the blood stream and causes its action at the tissue level. Thyrotoxicosis highly affects the quality of life of patients suffering from the disease in carrying out daily activities. Proper treatment of thyrotoxicosis requires an accurate diagnosis. Objective: To determine the causes of thyrotoxicosis in patients reported for evaluation and management to specialized endocrine unit. Methods: This was a descriptive cross sectional observational study conducted by convenient sampling in Outpatient Department (Endocrinology Clinic) Khyber Pakhtunkhwa in six month's duration (15th December 2023 to 15th May 2024) having sample size n=118. Thyrotoxicosis was labeled if patient has high T3, T4 (thyroxine and/or triiodothyronine) levels and suppressed thyroid stimulating hormones TSH levels. Information was gathered from the patients regarding their clinical signs and symptoms and anthropometrics. Laboratory investigations of thyroid function tests were obtained and analyzed. Results: The mean age of 118 patients was 40.39 ± 13.69 years, 28% male and 72% female patients were in enrolled in the study. Graves' disease was most common form thyrotoxicosis making count of 50% of patients followed by toxic adenoma, toxic MNG, thyroiditis 16% and 14 % respectively. Anti-thyroid drugs count 43% of most of the patient's treatment offered followed by radioactive iodine 28%. Conclusions: In conclusion, the main cause of thyrotoxicosis, includes grave's disease, toxic adenoma and toxic MNG in Pakistani population. Thyrotoxicosis was more prevalent among female population as compared to males.

### INTRODUCTION

Thyrotoxicosis is an endocrine disorder in which excess amount of thyroid hormone is secreted in the blood stream and causes its action at the tissue level [1]. The term "thyrotoxicosis" is high T3, T4 (thyroxine and/or triiodothyronine) levels and suppressed TSH levels [2]. Hyperthyroidism is observed in female more as compared to males with a ratio of (5:1). The overall prevalence of hyperthyroidism in female is 1.3% however it increases in age and in older females it is estimated to be 4% to 5% [3]. Literature showed that prevalence of hyperthyroidism is higher among smokers as compared to nonsmokers [4]. Young females are most prone to graves' disease while toxic nodular goiter is more prevalent in older women. Thyrotoxicosis has various etiologies, manifestations, and potential treatments [5]. Treatment of each type requires accurate diagnosis. Furthermore, β-blockers can be used in almost all forms of thyrotoxicosis, whereas Anti-Thyroid

Drugs (ATDs) are useful in only some patients [6]. For appropriate treatment of thyrotoxicosis, exact diagnosis of the cause and its associated medical conditions should be dig out and patient preference for utmost priority [7]. It is difficult to diagnose exact cause of thyrotoxicosis as symptoms can mimic many other diseases and this can lead to inappropriate diagnoses and timely management of the disease [8]. For all the above reasons, literature studied showed that many globally surveys and endocrinologist opinions from different geographical areas unveiled important ambiguities in AIT causing, diagnosis and treatment is concern. Thyrotoxicosis exhibit collective clinical manifestation, caused by excessive serum thyroid hormones particularity thyroxin[9]. The clinical signs and symptoms of thyrotoxicosis exists variable feathers like weight loss fatigue and weakness like cardiovascular disorders neuromuscular disorder and gastrointestinal

disturbance. Mostly worldwide thyrotoxicosis is diagnosed on laboratory investigations, levels of thyroxin, triiodothyronine and thyroid stimulating hormones associated with other investigations for medical condition. In general thyrotoxicosis elevated levels of serum level of thyroid hormones and thyroxin [10]. Management of thyrotoxicosis rely on the cause and severity of the disease. The treatment options of hyperthyroidism include antithyroid medicines, radioiodine therapy and thyroid surgery. The radioiodine treatment aims to dominate radioiodine and recovers thyroid over weeks to months. Medical treatment of Hyperthyroidism include medicine like as methimazole can temporally controls disease, β-blockers also control cardiovascular symptoms. Lastly surgical removal of thyroid gland is mainly applied on cancerous condition and has higher prevalence among female then males and younger age groups [11]. Worldwide, patients with thyrotoxicosis are examined and managed in specialized endocrine clinics. Being the super specialty clinics of endocrinology in this part of the country, endocrine patients from nearby areas are managed here in superspecialty clinics.

This study aimed to find the causes of thyrotoxicosis in population in this part of the world. The current study added and improved the existing knowledge of medical physicians on thyrotoxicosis, its evaluation and management, especially in this region, thus improving the general health and quality of life of the population being affected by this endocrine disease.

### METHODS

This was a descriptive cross sectional observational study conducted in Out-Patient Department (Endocrinology Clinic) Khyber Pakhtunkhwa in six month's duration (15th December 2023 to 15th May 2024). The sample was calculated by open Epi sample size calculator. The previously reported prevalence of hyperthyroidism in Pakistan is 8.38% as reported by previous literature [12]. The minimum required sample size was 118 participants at 95% confidence interval, 5% margin of error and 80% power. All those patients who were reported at OPD of Department of Endocrinology and Metabolic Disorder for evaluation and management of thyrotoxicosis were included in the study using convenient sampling technique. Those patients who were already on anti-thyroid medications and had no record of thyroid scan were excluded from study. The researcher collected the data after approval of proposal from ethical committee of college of family medicine Pakistan, approval letter issued (IRB-CFMP/22/2023). Participants were enrolled according to inclusion and exclusion criteria. Informed consent was taken from each participant, who met the inclusion criteria. Before consent, the purpose and benefits of the study were explained to participant using the patient information

sheet. Trained phlebotomist took 5cc blood to carryout blood analyses. Samples/data were collected using Non-Probability Consecutive Sampling Technique from all included patients presenting to the Department of Endocrinology, Hayatabad Medical Complex Peshawar for thyrotoxicosis. Data regarding socio demographic aspects, hematological, biochemical findings and radiographic images (Thyroid Uptake Scan and Ultrasound) of thyroid gland were collected on the specially designed tool to analyze hyperthyroid patients. Thyrotoxicosis was evaluated using blood tests for thyroid function tests using immunoassay test kits. Thyrotoxicosis was labeled if patient has high T3, T4(thyroxine and/or triiodothyronine) levels and suppressed TSH levels. Information was gathered from the patients regarding their clinical signs and symptoms and anthropometrics. The data collected was analyzed using SPSS version 21 and interpreted in tables. Frequencies, means and standard deviation were calculated for continuous variables. The Chi Square test was used for association of categorical variables. Pvalue < 0.05 was considered statistically significant.

### RESULTS

The mean age of 118 patients was  $40.39 \pm 13.69$  years, 28% male and 72% female patients were in enrolled in the study table 1. Duration of the disease history was  $13.81 \pm 21.84$  months. Mean thyroid function tests recorded was as  $T32.55 \pm 2.92$ ,  $T416.59 \pm 7.53$ ,  $TSH1.05 \pm 9.25$ . Inflammatory markers mean ESR was  $74 \pm 33$ . Among biochemical interpretation overt hyperthyroidism was higher 51% followed by subclinical 39% T3, 9% T4 thyrotoxicosis 1%. In appropriate treatment was taken by 20% of the thyroid patients. Goiter was found among 55% while Sjogrens' syndrome signs were among 83% of patients. TSH receptors antibodies test TRAB carried out was positive among 38% of thyroid patients.

Table 1: Baseline Characteristics of Patients (n=118)

	Variable	Mean ± SD / N(%)	
	Age (Mean)	40.39 ± 13.69	
Gender	Female	33(28%)	
Gender	Male	85(72%)	
Duration	of Disease(Months)	13.81 ± 21.84	
Т	3 (μLU/mL)	2.55 ± 2.92	
Т	4(μLU/mL)	16.59 ± 7.53	
TS	SH(µLU/mL)	1.05 ± 9.25	
E	SR (mm/Hr)	74 ± 33	
	Biochemical Inter	pretation	
5	Sub Clinical	39%	
	Overt	51%	
T3 1	hyrotoxicosis	9%	
T41	hyrotoxicosis	1%	
	in Appropriate Treatment Taken		
	Yes	20%	

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No	80%	
Goiter		
Yes	55%	
No	45%	
Sjogrens' Syndrome		
Yes	83%	
No	17%	
TSH Receptors Anti Bodies Test (TRAb)		
Positive	38%	
Negative	62%	

Grave's disease was most common form thyrotoxicosis making count of 50% of patients followed by toxic adenoma, toxic MNG, thyroiditis 16% and 14% respectively. All the causes Graves' disease, toxic adenoma, thyroiditis and toxic MNG were significant with p value 0.004, 0.001, 0.002 and 0.072 respectively. Drug induced and TSHoma were insignificant with p value 0.241 and 0.42 respectively table 2.

Table 2: Frequency of Different Causes of Thyrotoxicosis and Association with Gender(n=118)

Variables	Male N(%)	Female N (%)	p-Value
Graves' Disease	21(18%)	38 (32%)	0.004
Toxic Adenoma	5(4%)	14 (12%)	0.001
Toxic MNG	5(4%)	12 (10%)	0.072
Thyroiditis	7(6%)	11 (9 %)	0.002
Drug Induced	1(1%)	2(2%)	0.241
TSHoma	1(1%)	1(1%)	0.423

Thyroid scan showed most significant among diffuse increased uptake followed by Low Uptake 51% and 19% respectively. All types of thyroid scan have statistical significance with gender except multifocal increase up take with (p value 0.75). These results also make graves diseases among leading cause in thyrotoxicosis table 3.

**Table 3:** Association of Thyroid Scan in Gender among study participants

Variables	Total N(%)	Male N(%)	Female N(%)	p- Value
(Graves)	191 (51%)		131(35%)	0.002
Solitary Increased Uptake/Toxic Adenoma	60 (16%)	25(7%)	35(9%)	0.001
Multifocal Increased uptake	52 (14%)	20 (5%)	32(9%)	0.753
Low Uptake	72(19%)	24(6%)	48(13%)	0.001

Table 4 described treatment offered to the patients. Antithyroid medications treatment was offered to 43% of the offered followed by radioactive iodine 28%. Observation and monitoring required among 12% and surgery required 10% and steroid therapy required to 7% of patients.

Table 4: Treatment Offered to the study participants

Variables	n (%)
Anti-Thyroid Drugs	51 (43%)
Radio Active Iodine	33(28%)

Surgery	12(10%)	
Observation and Monitoring	14 (12%)	
Steroid Therapy	8 (7%)	

## DISCUSSION

The causes of thyrotoxicosis in general population were well understood in western world, globally it was known that Graves' disease was contributing factor to thyrotoxicosis [13]. The findings of the present study also appraise this literature where it was found out that 50% of population had Graves' disease followed by toxic adenoma and thyroiditis in 16 % each of population. Literature showed that thyrotoxicosis can occur in any age, child adolescent and adults were equally affected with incidence of between ages 20 and 50 years [14]. The study finding showed that mean age of the patients with thyrotoxicosis was 40.39 ± 13.69 with male to female 28% and 78% frequency. The reason behind this was thyrotoxicosis prevalence was higher in females as compared to male by ratio of 5:1 [15]. Mean duration and treatment of disease was 13.81 ± 21.84, however this could be late presentation as in this population very limited access to specialized endocrinologist and the specialized health facility. A study conducted in Turkey found mean duration of treatment of  $8.0 \pm 6.9$  months [16]. The biochemical interpretation of this study reveals that overt hyperthyroidism was in 51 patients followed by sub clinical 39%. A study conducted found that including 0.5% overt thyrotoxicosis and 0.7% subclinical among total of 1.2% thyrotoxicosis [17]. This study found 55% of patients with diffused goiter on thyroid scan, however Hanely P reported that 10-15% of adolescent's thyrotoxicosis were caused by diffused toxic goiter [18]. These results also found that Sjogrens' syndrome signs were positive among 83% of the study population. TSH receptor antibodies (TRAb) were antibodies directed against. The TSH receptors, it was measured to differentiate between thyrotoxicosis with hyperthyroidism [19]. In this study the TRAB was performed in patients and 38% of the results were positive. Graves' disease that was an autoimmune disorder that causes immunoglobulins to activate the TSH receptor of follicular cells [20]. The risk factors for thyrotoxicosis include family history positive, female gender, termination of pregnancy postpartum period and increasing age. These study findings showed that graves' disease was the main cause of thyrotoxicosis that accounts for 50% of patients among which 32% were female population with significant p value (p=0.004). Over all the female population in this study were affected by toxic adenoma 12 % and toxic MNG 10 % with p value 0.001 and 0.07 respectively. A thyroid scan can help diagnose the cause of thyrotoxicosis, it helps to differentiate between Graves' disease, Toxic Multinodular Goiters (TMNGs), and Subacute Thyroiditis (SAT)[21]. This

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study analysis of thyroid scan showed that diffuse increased uptake was higher prevalent followed by Low Uptake 51.3% and 18.5% respectively. Technically, the aim of treatment of the thyrotoxicosis was to investigate find and remove the cause, treatment includes thyroidstimulating immunoglobulin, anti-thyroid medications methimazole, surgery thyroidectomy, and immunosuppressive steroid therapy [22]. In the study population, the treatment offered included anti thyroid drugs count 43% of most of the patient's treatment offered followed by radioactive iodine 28%. The goal of treatment has never been to cure the thyrotoxic condition rather than making the condition euthyroid without the need for thyroid hormone or to reduce the function to below normal. In limitation, the sample size was too small as this was shorter duration of the study and due to very small population proportion larger data could not be achieved. As sample size was n=118 so this small data could not be generalized in conclusion for whole population. However, it was recommended to carry out more detail cohort, prospective, metacentric studies with larger sample size to better understand the depth of the disease.

### CONCLUSIONS

In conclusion, the main cause of thyrotoxicosis, includes Graves' disease, toxic adenoma and toxic MNG in Pakistani population. Female population was more affected as compared to males. Mainly patients responded to anti thyroid medications for treatment. The management of thyrotoxicosis requires specialized consultation to correctly find the cause, diagnose the condition and treat accordingly that can significantly influence the outcome of disease and the well-being of the patient.

### Authors Contribution

Conceptualization: AA

Methodology: SK Formal analysis: A

Writing, review and editing: TH, FM

All authors have read and agreed to the published version of the manuscript

Conflicts of Interest

All the authors declare no conflict of interest.

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### REFERENCES

 Anandkumar S, Chacko J, Usha M. Thyroid disorder: An overview. Research Journal of Pharmacology and Pharmacodynamics. 2020; 12(1): 1-4. doi: 10.59 58/232 1-5836.2020.00001.4.

- [2] San Yap P, Ali O, Truran P, Aspinall S. Thyrotoxicosis and thyroiditis. Surgery (Oxford). 2024 Mar; 42(4): 239– 245. doi: 10.1016/j.mpsur.2023.10.006.
- [3] Muñoz-Ortiz J, Sierra-Cote MC, Zapata-Bravo E, Valenzuela-Vallejo L, Marin-Noriega MA, Uribe-Reina P et al. Prevalence of hyperthyroidism, hypothyroidism, and euthyroidism in thyroid eye disease: a systematic review of the literature. Systematic Reviews.2020 Dec; 9: 1-2. doi: 10.1186/s13643-020-01459-7.
- [4] Bakar RZ, Cetin C, Yozgat CY, Kütük MS. The Effects of Maternal Smoking on Thyroid Function: Findings from Routine First-Trimester Sonographic Anomaly Screening. Zeitschrift für Geburtshilfe und Neonatologie.2023 Dec;227(06):429-33doi:10.1055/a -2165-8262.
- [5] Klubo-Gwiezdzinska J and Wartofsky L. Hashimoto thyroiditis: an evidence-based guide to etiology, diagnosis and treatment. Polish Archives of Internal Medicine.2022 Mar; 132(3).doi:10.20452/pamw.1622 2.
- [6] American Thyroid Association and American Association of Clinical Endocrinologists Taskforce on Hyperthyroidism and Other Causes of Thyrotoxicosis, Bahn, R.S., Burch, H.B., Cooper, D.S., Garber, J.R., Greenlee, M.C., Klein, I., Laurberg, P., McDougall, I.R., Montori, V.M. and Rivkees, S.A., 2011. Hyperthyroidism and other causes of thyrotoxicosis: management guidelines of the American Thyroid Association and American Association of Clinical Endocrinologists. Thyroid, 21(6), pp.593-646 doi: 10.1089/thy.2010.0417.
- [7] Pearce EN. Diagnosis and management of thyrotoxicosis. Bmj. 2006 Jun 8;332(7554):1369 doi: 10.1136/bmj.332.7554.1369.
- [8] Toro-Tobon D, Stan MN. Graves' disease and the manifestations of thyrotoxicosis.InEndotext [Internet]2024Sep24.MDText.com, Inc.
- [9] Mansourian AR. A review on hyperthyroidism: thyrotoxicosis under surveillance. Pakistan Journal of Biological Sciences: PJBS. 2010 Nov 1;13(22):1066-76 doi: https://doi.org/10.3923/pjbs.2010.1066.1076.
- [10] Petranović Ovčariček P, Verburg FA, Hoffmann M, lakovou I, Mihailovic J, Vrachimis A et al. Higher thyroid hormone levels and cancer. European Journal of Nuclear Medicine and Molecular Imaging. 2021 Mar; 48: 808-21. doi: 10.1007/s00259-020-05018-z.
- [11] Kitahara CM and Schneider AB. Epidemiology of thyroid cancer. Cancer Epidemiology, Biomarkers & Prevention. 2022 Jul; 31(7): 1284-97. doi: 10.1158/1055-9965.EPI-21-1440.
- [12] Alam¹ Z, Shah M, Khan M, Ali W, Shehzad A, Shah JA, Shahana H, Ahmad A, Jalil¹ F. Thyroid Dysfunction and Prevalence of both clinical and subclinical form of Hyperthyroidism and Hypothyroidism in District



## Dr. Riasat Ali Khan reports about IDF Global Clinical Practice Recommendations for Managing Type 2 Diaabetes2025





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