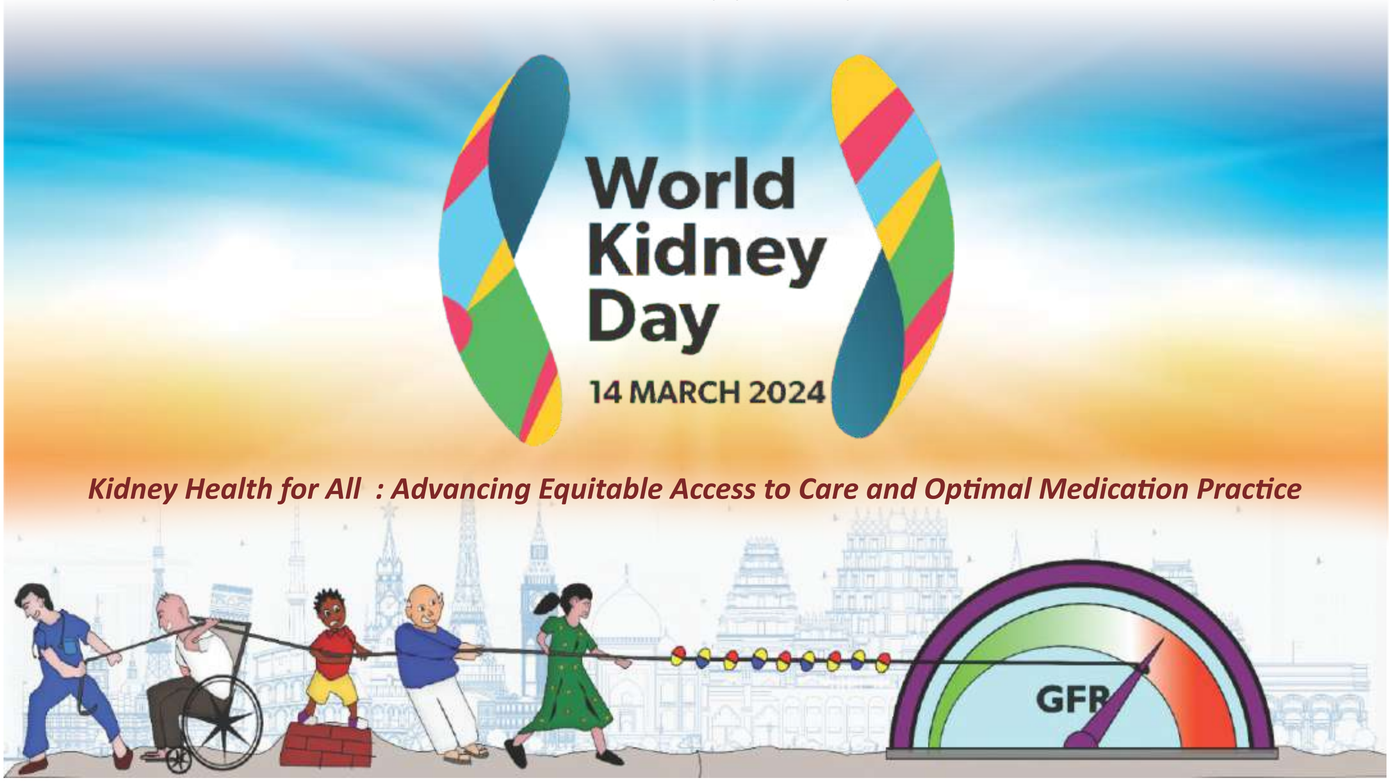
KIDNEY KOLUMNS

Freely filtered from the ISN



Dear Readers,

Welcome to the special World Kidney Day edition of Kidney Kolumns! This edition is dedicated to the theme of "Kidney Health for All – Advancing equitable access to care and optimal medication practice," a cause that the nephrology world is increasingly focused on.

In this issue, we shine a spotlight on a few patient stories, sharing their journeys, challenges, and triumphs in navigating kidney health. Through their experiences, we hope to highlight the importance of equitable access to care and the impact of optimal medication practices on kidney health outcomes.

Additionally, we're excited to bust some myths surrounding kidney disease. From misconceptions about risk factors to misunderstandings about treatment options, we aim to provide clarity and empower our readers with accurate information. As always, your feedback is invaluable to us. Whether you have comments, criticisms, or compliments, we welcome them at education@isn-india.org. Your input drives our commitment to promoting kidney health for all.

Warm regards,

Editors-in-Chief

Inside

KIDNEY KOLUMNS

ISN GOVERNING BODY

President: Dr HS Kohli
Immediate Past President: Dr Sanjeev Gulati
President Elect: Dr Ashwini Gupta
Vice President: Dr Sanjiv Jasuja
Hon Secretary: Dr Shyam Bihari Bansal
Treasurer: Dr DS Bhadauria
Chairman, Scientific committee:
Dr N Gopalakrishnan
Chairman, Credentials committee:
Dr DS Rana
Editor, IJN : Dr Vivekanand Jha
Executive members:
Dr Vinant Bhargava
Dr Anurag Gupta
Dr Kailash Nath Singh
Member (North zone): Dr Manoj Singhal
Member (South zone): Dr Sree Bhushan Raju
Member (East zone) : Dr Sukant Das
Member (West zone): Dr Anil Ganjoo

EDITORS IN CHIEF

Dr Mayuri Trivedi DNB, DM
Head, Dept of Nephrology,
Lokmanya Tilak Municipal
General Hospital, Mumbai

Dr Sanjeev V Nair MD, DM
Senior Consultant,
Madras Medical Mission
Hospital, Chennai

Advisor:
Dr Shyam Bihari Bansal
DM, FISN, FISOT, FASN,
FRCP (London)
Secretary Indian Society of
Nephrology
Director and Head,
Department of Nephrology
Medanta-Medicity, Gurgaon,

Design

Dr Anand Chellappan MD, DM

EDITORIAL BOARD

Dr Ambily K.
Second year DM Nephrology Resident,
Pushpagiri Institute of Medical Sciences
and research Centre, Thiruvalla, Kerala

Dr Anand Chellappan MD, DM
Assistant Professor,
Dept of Nephrology, AIIMS, Nagpur

Dr M Subashri MD, DM, DNB
Consultant Nephrologist
Prashanth Superspeciality
Hospitals, Chennai

Dr Namrata Rao MD, DM
Associate Professor,
Dept of Nephrology,
Dr RMLIMS, Lucknow

Dr Pallavi Prasad MD, DNB
Assistant Professor,
Dept of Nephrology, Vardhaman
Mahavir Medical College and
Safdarjung Hospital, New Delhi

Dr Sabarinath S MD, DM,
PDF (Renal Transplant), FASN
Consultant Nephrologist and
Renal Transplant Physician
RMC Superspeciality Hospital
Tirupur, Tamilnadu

Dr Sandhya Suresh MD, DNB
Assistant professor,
Sri Ramachandra Institute of Higher
Education and Research (SRIHER),
Chennai

Dr Sandip Kumar Panda MD, DM
Assistant Professor,
Dept of Nephrology,
AIIMS, Bhubaneswar

Dr Urvashi Khan, DrNB Nephrology
2nd year resident, MD, DNB
(Medicine), Dharmshila Narayana
Superspeciality Hospital, Delhi

Dr Vineet Behera MD, DM
Consultant Nephrologist,
INHS Kalyani, Visakhapatnam

COVER IMAGE :

The world kidney day logo has been taken from www.worldkidneyday.org. In the logo yellow represents urine, red symbolizes blood, and blue denotes water. The new logo proudly introduces green, underscoring our commitment to sustainability, a core value embraced by the nephrology community.

The illustration highlights the importance of equitable access to high-quality medications, regardless of age, socio-economic status or cultural identity, emphasizing that the fight against kidney disease requires inclusivity and equal opportunities for treatment and care.

Illustration Credits
Dr. Anand Chellappan MD, DM
Assistant Professor, Dept of Nephrology, AIIMS, Nagpur

“When life gives you lemons, make lemonade!”

This adage is a true representation of the couple whose life story I’m going to share with you today. Pooja Mathur and Anshuman Kumar are a couple who make us nephrologists feel really good about what we are doing. They are both renal transplant recipients, happily married for the past 11 years with Anshuman having completed 21 years and Pooja 14 years of post-transplant life.

But it’s unfair to label them as transplant recipients alone, because they are much more than that. At this point, I must first declare here my conflict of interest: to me they are my cousin brother and sister in law first, and patients later. As a child, I was witness to the journey of Anshuman (bhaiya) from close quarters. Multiple relapses of FSGS with recurrent hospitalisations, consultations from doctors across the country, the trauma of undergoing a kidney biopsy as a child, heated arguments when he (occasionally) didn't stick to salt restriction... all in a journey which culminated eventually in kidney failure, dialysis and transplantation. I still remember how the entire family was holding their breath on the day of his transplantation. His mother (my Mausi) was the donor. Things went more or less smooth from then on. But one has to remember, transplant is a life changing event. Everything right from your food habits to your face changes. I have seen him go through some bitter moments even after transplantation. Disrupting your school life when all friends are sailing easily through is tough. Finding a work place which you love and still get leeway when needed for ur health is even tougher. And also lastly, we doctors forget that marriage doesn't come easy to our patients. Anshuman met about 30 plus prospective girls but faced rejection from most families because of him being a “kidney patient”, seldom did anyone look beyond that.

Anshuman first met Pooja (Bhabhi) in the waiting room of the busy nephrology OPD of none other than Dr Vijay Kher. They jokingly call him their “Cupid". Pooja had had an equally difficult journey of life. Having lost her father to ADPKD, she had gone through a difficult path of kidney failure but thankfully received a pre-emptive kidney transplant with her mother being the donor (a difficult life for the donor as well- her husband and both her children had ADPKD). Pooja was doing well after transplantation and placed well in a renowned IT company. Despite that, her family went through an arduous journey looking for a prospective groom for her - even got duped of a huge sum of money in the process by scamsters. After having faced multiple rejections, she was determined not to get into a marriage where she was not given respect and love.

The journey after that fateful day when they first met is why I talked about lemonade– and a sweet lemonade indeed! Pooja and Anshuman decided that they were the best match for each other and the families were convinced of the same. The decision didn't come easily again- there was the apprehension of who would take care if any one of them fell ill, or what if both became ill together ? But the couple had full faith that things would work out. So here we stand 11 years later. With unwavering family support from both sides, Anshuman and Pooja have stood by each other through thick and thin- be it celebrating a family event or getting operated for an infected cystic kidney, they have stood by each other. They stay independently in Bangalore and are both very well placed professionally, one at a manager level in an IT company and the other running a financial advisory firm. From international leisure trips to transplant games, they don't miss out on the pleasures of life- all the time keeping health a priority. As for me, in this journey I have progressed from sister to sister in law to visiting nephrologist. I think I owe it to them that I look at my patients from not just a clinician’s perspective but also as a human being. Cheers to them !

Dr Pallavi Prasad, Assistant Professor Nephrology,
VMMC and Safdarjung Hospital, New Delhi India,
Anshuman Kumar, Financial Planner/Personal Portfolio Manager
Pooja Mathur, Project Manager,Zensar Technologies

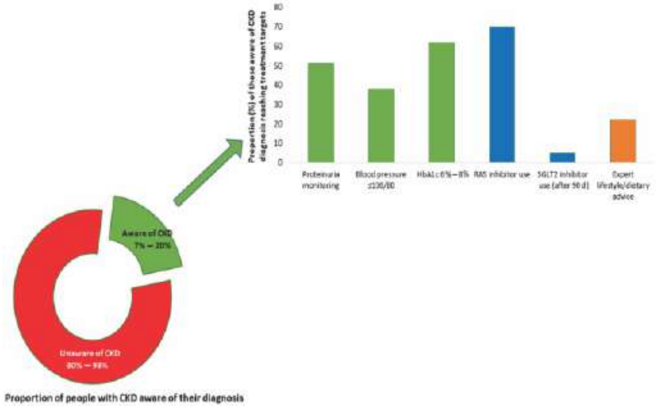
Hon. Secretary's Message

According to recent estimates, Chronic Kidney Disease (CKD) affects > 840 million people worldwide, which means 1/10 person has CKD. CKD is fast becoming one of the leading causes of death and is currently 7th most common cause of death. The reason for this increase in CKD is mainly because of an increase in lifestyle diseases i.e. diabetes and hypertension, which are the most common causes. In India, approximately 2-2.5 lacs people develop kidney failure each year, but only about 25-30% get dialysis and 5-10% receive kidney transplants. There is a lack of awareness of kidney disease among the public and only 7-20% of people are aware of kidney diseases and most of them do not get the guideline recommended treatment to delay the CKD progression. The need of the hour is to increase awareness about kidney diseases among the public to prevent them and make kidney care accessible to all. Science has advanced rapidly in recent years in increasing our understanding of how to delay or prevent kidney disease, but the implementation of these scientific advances is inadequate.

Using our knowledge wisely can save lives that is the message I would like to give to all primary care physicians who are the first contact for people with diabetes and hypertension. We should make a concerted effort to uplift the knowledge of the medical community and public so that through the management of risk factors and optimal use of the right medication we can save many more lives than why we can do only through dialysis or transplantation. In this issue of newsletter, Dr Smita Divaveer has written a nice article about the gaps and need in various aspects of CKD care in India.

One step by ISN in this direction is clinic-based screening of patients with diabetes and hypertension with the help of Astra Zeneca to detect kidney disease in the initial stages.

Thanks and Warm Regards



Kidney International (2024) 105, 406–417

Proportion of people with chronic kidney disease (CKD) who are aware of their diagnosis and are receiving appropriate guideline-recommended care.

Dr Shyam Bihari Bansal
Hon. Secretary
Indian Society of Nephrology

THE PERILS OF HEALTH CARE PROVIDER PRESCRIBED NEPHROTOXINS

Voltaire – a French philosopher said...Doctors are men who prescribe medicines of which they know little, to cure diseases of which they know less, on human beings of whom they know nothing.

The majority of the population seek help from the locally available HCP(Health Care Provider) for any minor illness. HCPs play a crucial role in healthcare by providing primary care services, including prescribing medications to their patients. While their intentions are often to alleviate symptoms and improve patients' health, there can be risks associated with certain medications, including nephrotoxic drugs.

Nephrotoxic drugs are medications that have the potential to cause kidney damage or impairment. This damage can range from mild and reversible to severe and irreversible, depending on various factors including the drug itself, the dosage, duration of use, and the patient's individual susceptibility.

The perils of HCP-prescribed nephrotoxins arise due to several reasons:

1. **Limited Training & Knowledge :** HCPs may have limited training and knowledge as the majority would have finished only their basic training in health care. This could result in inadequate knowledge regarding the potential nephrotoxic effects of certain medications.
2. **Polypharmacy :** HCPs often manage patients with multiple chronic conditions who require several medications. Polypharmacy increases the risk of adverse drug interactions, including nephrotoxicity. Common nephrotoxic medications prescribed by HCPs include certain antibiotics (e.g., aminoglycosides), nonsteroidal anti-inflammatory drugs (NSAIDs), certain antiviral medications(acyclovir), proton pump inhibitors, and certain antihypertensive medications (e.g., ACE inhibitors, ARBs, etc)
3. **Lack of Monitoring :** Monitoring kidney function is essential when prescribing nephrotoxic medications. However, HCPs may not always have access to the necessary resources or may not prioritize regular monitoring, particularly in busy primary care settings.
4. **Diagnostic Challenges :** Identifying nephrotoxicity can be challenging, especially in patients with multiple comorbidities. Symptoms may be nonspecific, and changes in kidney function may not always be readily apparent without specific laboratory tests.
5. **Patient Factors :** Patient-specific factors such as age, underlying kidney function, comorbidities, and concurrent medications can influence the risk of nephrotoxicity. HCPs may not always have a complete understanding of these factors when prescribing medications.

To mitigate the risks associated with HCPs-prescribed nephrotoxins, several strategies can be employed:

1. **Continuing Education :** Providing ongoing education and training to HCPs on nephrotoxic medications, appropriate prescribing practices, and monitoring guidelines can help improve patient safety.
2. **Clinical Decision Support Systems :** Implementing electronic health record systems with clinical decision support tools can assist HCPs in identifying potential nephrotoxic medications, checking for drug interactions, and recommending appropriate monitoring protocols.
3. **Interdisciplinary Collaboration :** Encouraging collaboration between HCPs and specialists, such as nephrologists and clinical pharmacists, can facilitate shared decision-making and enhance patient care, particularly for complex cases.
4. **Patient Education :** Educating patients about the importance of medication adherence, potential side effects, and the need for regular monitoring can empower them to actively participate in their healthcare and report any concerning symptoms to their HCPs promptly.

By addressing these challenges and implementing appropriate strategies, the perils of HCP-prescribed nephrotoxins can be mitigated, ultimately improving patient safety and outcomes in primary care settings. A novel framework to approach drug-induced nephrotoxicity focused on Risk assessment, early Recognition, targeted Response, timely Renal support and Rehabilitation coupled with Research (the 6R approach) has been suggested and would be ideal.

Dr Edwin Fernando M
Prof & Head of Nephrology
Govt Stanley Medical College
Chennai, TN

Short life, short-changed - Caregiver perspectives to show the way forward this WKD

In the practice of nephrology, there are perhaps few other situations as piercing and poignant as watching the downward spiralling course of a child with kidney failure. These are those moments at a patient's bedside when the diverging standpoints of science, logistics and empathy converge into a blaring, chaotic mass of thoughts, that swirls relentlessly inside one's mind even as one summons practiced poise to go through the situation at hand. The case in point here is that of a young child with end-stage kidney disease, who was placed on life-support after sustaining a sudden cardiac arrest following a hypertensive crisis during a session of hemodialysis. Unsettling enough by itself, this event however carried a recurring moment of reckoning for me. A difficult, and even more unsettling realisation that a nephrologist is a but mere cog in the giant sprawling machinery of healthcare.

Tragedies such as these are typically viewed as 'system failures', linked inextricably to deficiencies at one or more levels in the matrix of care delivery. What must have happened in this case? How did this particular child slip through? Which layer of defence gave way? During the tough hours of waiting after the event, the patient's care-giver sought an audience with me. He appeared to have a request. This young man was the child's maternal uncle, who worked as a farmer in a village in interiors of Maharashtra, placed at about 70km from the nearest district place. Multiple red flags flashed right here at the first few introductory sentences, like an undisputed algorithm for poor outcomes. “Rural”. “Interior”. “Farmer”. Likely the chief family provider. “Financial constraints” “Absent father”. Also probably a guardian of both, the ailing child and his mother.

Two months ago, this child was brought to our hospital's casualty with uremic encephalopathy and initiated on hemodialysis for end-stage kidney disease. The family could not opt for peritoneal dialysis due to the high costs involved, but were willing to work on the prospect of a kidney transplant. Hemodialysis was the interim plan, a bridge to a more feasible and safer therapy later in the not-so-distant future. When asked about the availability and quality of medical care in his region, the man cited great difficulties on various fronts. For instance, visiting a nephrologist in another town, travelling costs incurred for these visits, out-of-pocket spending for dialysis at the only available centre in the region and so on. Furthermore, he narrated the premonitory events he felt responsible for the current adversity- lesser hours of dialysis therapy offered, unavailability of specialists, minimal revision of medical prescription suitable to the child's changing status, and delayed referral despite the recent deterioration in health. “Doctor, I wish I hadn't taken the child back to the village after discharge. He was doing so well during the stay here at your hospital.” While the child was cared for by an army of specialist doctors, nurses and trained dialysis personnel at the tertiary care hospital, it did not escape his notice that this was not the case everywhere else. In lesser equipped areas such as his, he observed, the knowledge, skill, and competency of care was decidedly inferior and felt generic, a far cry from that at the 'big hospital in the big city'.

The gentleman was also exceptionally aware that the society around him does not have an adequate understanding of kidney disease and the sheer burden it can cause. Further, he stated that in many ways, he and his family felt utterly alone. There were precious few besides him, who had lost a healthy child to disease. Fewer still had fought and lost their battles to sparse medical resources and care. Not surprisingly, his narrative also had elements of common avarice (unjustified charges for dialysis despite being a beneficiary of a governmental health scheme) and omnipresent power plays (a hushed admission of his inability to raise public opinion against the inadequacies of dialysis centre, which had a political affiliate). Lack of social awareness about kidney disease probably played its part as 'indifference' of the community to the hardships faced by his family. Worse, he could clearly see this attitude as a big hindrance in ushering any meaningful activities to tackle kidney diseases in his community. How was he, a lone warrior, supposed to bring about a change in the socio-political microcosm, and demand improvement of services at the only dialysis centre tending to a cluster of neighbouring towns and villages of his district?

However, of all the remarkable observations he put before me, in careful sentences (lest they offend me in any way), his stoicism broke down when he came to this part. "We were watching this child with our own eyes every day. How could we not pick it up?” “He went to school everyday. How could the school staff not pick it up?” A host of lost opportunities plagued his conscience. A sense of failure to protect his ward from a deadly disease. A sense of misfortune descending in plain sight, but hidden shrewdly behind the hustle of everyday life. Disease and healthcare in a nutshell, how accurately did he paint the picture for me in the few minutes he took to do so. Children as a vulnerable group, delayed recognition of kidney disease and uremia, difficulties with vascular access, inequities in access to dialysis, rarity of trained and specialized personnel, and the imminent risk of cardiovascular death.

Are we focusing too much on the 'system inefficiencies' here- like with the classic Swiss Cheese model to explain adverse events in healthcare? Is it driving the focus away from immediate questions of competency of healthcare professionals across the spectrum- up and down the vertical hierarchy and horizontally extending to the paramedical workforce besides us? Are we engaging in clinical futile cycles? Where deficiencies in one or more layers will inadvertently and adversely affect the others?

This year's World Kidney Day theme: “Kidney Health for all. Advancing equitable access to care and optimal medical practice” challenges us to identify the lacunae, inequities and sub-optimal practices in the various areas in nephrology. It compels us to take a definitive look at our collective competencies and resourcefulness, and urges us to take lessons from the breaches and failures we experience around us. We celebrate the success stories with a gusto. It is indeed life-affirming to speak of hope and success- of dialysis, transplant and recovery. But isn't it equally important to talk of loss and learn? Like this watchful and responsible man, who, in the final hours of his great grief and loss, came up to me with a very sensitive request- “Doctor, can you do something to ensure that what happened to my nephew…does not happen to anyone else?”

Dr Sayali B. Thakare
Assistant Professor, Department of
Nephrology, KEM Hospital, Mumbai

'You are as young as your attitude'

From the desk of an 84 years young gentleman on Hemodialysis

I observed a lack of appetite in the year 2018 and experienced nausea whenever I ate or when I smelt food. There was oedema (swelling) in my face, legs, and neck. I also noticed a shaking of my hands when I had to use them for any activity. I did not pay much attention to it, though I was constantly advised by my family members to attend to it and to visit a medical professional. I refused to heed to their advice and if they spoke about it, I would shout at them.

A sudden increase in swelling in the various parts of my body and the subsequent revelation of an increase in Creatinine levels, during my master health check-up in May 2019, made my wife rush me to the hospital.

Emergency admission to the ICU and a diagnosis of Chronic Kidney Disease. I was then informed that I needed to go through hemodialysis for the rest of my life. I started with twice-a-week dialysis and then it was increased to thrice a week.

I began my hemodialysis in one hospital and then shifted to another due to proximity to my residence. When I saw the dialysis unit before I started the process, I found the atmosphere warm and homely. I began the dialysis process under the guidance of my nephrologist.

The staff at my current Dialysis unit guided me on the diet, the water intake (in milli liters), and the lifestyle changes to be made, which I diligently follow to date. I am also particular about the blood tests that I need to take once in two months and consult the doctor after that, for any guidance.

I faced two challenges once I began my dialysis.

- I had to resign from the job I was holding till then.
- My travel to any place is restricted to two consecutive days as I need to go through my dialysis procedure thrice a week.

The support I receive helps me immensely.

- The care given by my wife in following strict dietary measures, in line with what has been advised by the doctor.
- My children, their spouses, and my grandchildren are alert to my needs.
- Some fellow apartment residents who support me at times of need.
- The staff at the Dialysis Unit at Prashanth Hospitals take care of me during the period I undergo the dialysis. I also observe that they are knowledgeable and competent in what they need to do. They are caring and friendly.
- The company I was working in prior to starting my dialysis, offered me a 'work from home consultancy' which helps me to keep myself engaged.
- Last but not the least, I think that my own attitude has supported me, physically and mentally
  - o Acceptance of my Chronic Kidney Disease
  - o My daily walks and doing household chores

It has been almost 5 years since I started my dialysis procedure. It is said that 'In crisis you find yourself and those who matter'. It certainly is true for me.

Mr. K. Jagannathan

"Gender inequity in Kidney transplantation and dialysis."

Globally, chronic kidney disease is more prevalent among women while in South Asia the prevalence of CKD appears similar in men and women i.e., 14% in women and 16% in men. However among early CKD patients visiting hospitals, the majority (67.2%) are males.

The gender disparity is even more evident in patients receiving kidney replacement therapy(KRT). In the DOPPS study, more men were on hemodialysis (59% vs 41%) with dialysis being initiated at a higher GFR in men. In our dialysis unit under the Osmania hub only 349/1198(29.1%) patients undergoing chronic dialysis are females(sent for publication). Many ESKD women opt for conservative treatment. Many women are illiterate, non-professionals, have no independent source of income and have to get permission from their families to undergo chronic dialysis. Women with young children refuse to come for dialysis as there is nobody at home to care for their children in their absence. Many are dependent on their spouses or sons for transport to the dialysis centres. Women try to spare their families from the burden of their disease. Usually, men on chronic dialysis are accompanied by their spouses who are there for the entire duration of dialysis. Many women are abandoned by their partners and come alone for dialysis. Men on dialysis mostly quit their jobs. While women dialysis patients still perform their household chores. Dialysis treatment guidelines are not adapted for sex, despite differing body habitus and normal values between men and women. Despite potentially receiving a larger dialysis dose given their lower body weights, women on dialysis have worse outcomes, including more cardiovascular deaths.

Among transplant recipients, as well, far fewer women undergo kidney transplantation while the majority of kidney donors are women. The data collated by the NOTTO, the nodal agency for organ and tissue donation and transplantation in India shows that between 1995 and 2021, out of 36,640 patients who underwent organ transplants, 29,695 were men and only 6,945 were women. 4 of 5 living organ donors in India are women, 4 of 5 recipients are men. Gender disparity exists in the HIC as well. Female kidneys are, in fact, smaller than male kidneys and have a lesser number of nephrons. Hence, kidney transplantation from females to males may be associated with lesser nephron dosing with consequent poor long-term outcomes due to hyperfiltration and glomerulosclerosis. Thus despite the risk of poorer outcomes, women, especially wives and mothers, often are the default donors in a paradigm that can only be attributed to extant patriarchy. The explanation put forth is that the male is the main breadwinner for the family and donating an organ would jeopardize his health.

How could this disparity be addressed?

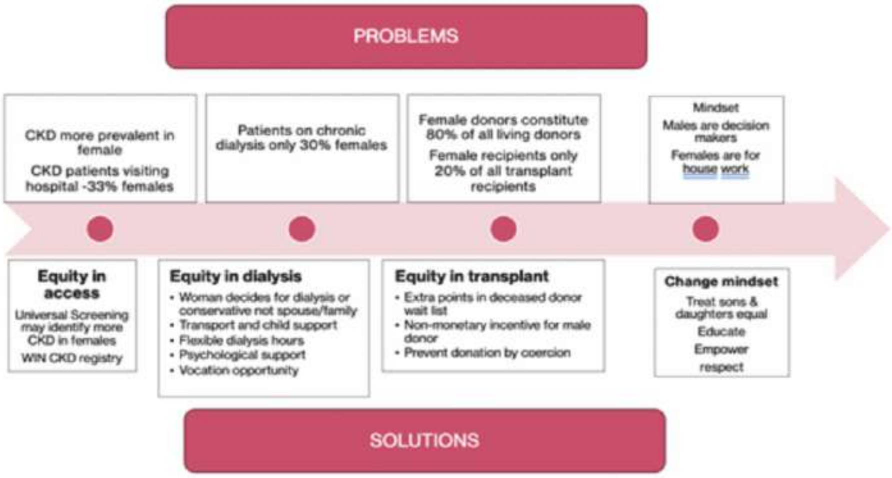
Having a disease registry for women which would help to understand the prevalence of kidney diseases in women would be an important step and this is one of the agenda of the Women in Nephrology in India (WIN-India). In patients already on chronic hemodialysis some suggestions which could be implemented include (i) one-to-one discussion with the woman in the absence of other family members regarding her decision about dialysis or conservative management, (ii) giving women the option of choosing their preferred shift, (iii) arranging for transport to the dialysis centre, (iv) providing a creche for children near the dialysis unit (NGO's can be roped in to arrange for transport and child care centres) (v) creating employment opportunities for women on hemodialysis which does not involve physical labour where if they are fit they can work on non-dialysis days which may provide them a source of income.

In the field of transplantation, the scenario can be improved in the following ways- (i) independent interview of the potential female donor- wife, mother, and sister to determine if there is any coercion and in case if coercion exists then the committee may declare her medically unfit to maintain family relationships; (ii) in women on deceased donor transplant waiting list extra score can be given to women recipients, (iii) giving non-monetary incentives to male donors, (iv) more women in leadership roles as decision-makers

Male and female sex has been assigned by nature where women are procreators. **But gender disparity is man-made**. Gender equity can happen only if there is a change in the mindset of people. Treating both sons and daughters equally not only in word but in spirit should begin at home. Equal work opportunities, and equal sharing of work at home is the need of the hour. The younger generation may move away from having a family as they may consider it as an obstacle to their professional growth. This does not augur well for the future of mankind. The essence of a woman is not in how she looks or how she cooks; it lies in her loving ways, her resilience and her caring nature. Women do not want to be put on a pedestal, they want to be treated as equals.

On the occasion of Women's Day (8th March 2024) and World Kidney Day (14th March 2024) let the nephrology community add its voice to the calls for action, for the recognition of the roles of sex and gender as modulators of kidney disease risk and access to care.

Dr Manisha Sahay
Professor and Head, Department of Nephrology,
Osmania Medical College & Osmania General Hospital Hyderabad



Making kidney care equitable in India

India is a country with glaring disparities and diversity. On one hand it is a hub of medical tourism with availability of state of the art kidney care facilities, on the other hand it is home to several underprivileged population groups who have barely any access to standard care. Hence, while the discussions of topics like ‘whether hemodiafiltration is better than hemodialysis’ are relevant to the evidence based practice of Nephrology, it is equally pertinent and ethically compelling to address ‘how to make dialysis / kidney care accessible to the needy’ for the real world realm of Nephrology.

Shockingly, about 1 in 5 adults in India suffer from CKD, with diabetes emerging as the primary contributor to the CKD/end-stage renal disease (ESKD) burden in ~30%. Despite remarkable strides in healthcare over the past 75 years, especially in immunization, maternal and child health, and communicable disease control, prevalence of with non-communicable diseases (NCDs) is increasing alarmingly, particularly kidney diseases, which remain largely neglected. The population groups with kidney disease that are particularly vulnerable and have poor access to kidney care broadly include (i) those with belonging to low socio-economic strata (ii) those with geographic disadvantage in the form of residence in rural, remote areas and relatively less developed regions and (iii) female gender. There are several other vulnerable subgroups like patients with extremes of age, disabled, illiterate etc. Universal health coverage cannot be attained unless steps are taken towards making kidney care accessible and available to the vulnerable population across the country.

World health organization (WHO) recommends a 6 component building blocks to describe and assess health systems. These are (1)Service delivery (2) Health workforce (3) Health system financing (4)Medical products, vaccines and technologies (5)Health information systems and (6)Leadership and governance. Under these somewhat interlinked building blocks there are several opportunities that can be undertaken to improve or attain equitable kidney care in India.

Service delivery and heathcare workforce: Primary, secondary and tertiary facilities are the three pillars of the government healthcare system in India. Primary health centers (PHCs) are the base of the healthcare pyramid, each catering to rural or remote areas where two third of India's population resides. India has a phenomenal system of health care workers at 'grass root level' that reach out to the community and are integral part of the community itself. While these have been instrumental in controlling the communicable disease burden in India by implementing various programs; proving that such a feat is possible, a similar awareness and enthusiasm for control of kidney care is starkly missing. The awareness regarding NCDs among the PHCs personnel and the community health care workers such as Accredited Social Health Activist (ASHA), Auxiliary Nurse Midwife (ANM) program, and Anganwadi workers (AWW) is poor. Basic facilities like serum creatinine and proteinuria estimation are not widely available in PHCs. Referrals of CKD patients to secondary and tertiary health care establishments is fraught with multiple challenges such as long travel distances, waiting times, and complexities due to financial constraints, geographic and language barriers,illiteracy and the low perceived risk associated with CKD. Patients with financial constraints rely on governmental referral facilities which as a result are overburdened and overwhelmed. According to the latest International Society of Nephrology Global Kidney Health Altas (ISN-GKHA 2023) report India has no shortage of nephrologists and other specialist like fistula surgeons, renal dieticians etc but the distribution is massively skewed with majority providing services in urban areas. The private clinical establishments and health care workforce fills the gap by providing kidney care but are essentially confined to affording subset of the population.

Despite the shortage of resources, several pragmatic measures can be undertaken to improve service delivery in the immediate future. An optimum use of the technological revolution that India is witnessing needs to be harnessed to its fullest for the cause of equity in kidney care. Online educational tools, interactive, innovative and collaborative sessions in local languages can be designed to instigate and enhance awareness of kidney disease, impart information regarding cost effective practical approaches eg. urine dipstick testing to screen the high risk groups or for identification patients with kidney disease, development online systems of referrals etc can all be helpful in alleviating the gap in kidney care in rural areas. There is significant proportion of early CKD patients who do not require any invasive intervention and can be managed efficiently with the help of Telemedicine / Tele-Nephrology. Physical examination is the soul of practice of medicine and hence cannot be replaced but Tele-Nephrology can empower the primary physicians or internists in managing some, if not all patients with CKD during their disease course by enhancing service quality and ensuring continuity of care.

Another important component of equitable kidney care is quality of care provided to the underprivileged. Adherence to minimum standards for quality and safety must be set for all dialysis units, with periodic checks and outcome assessments to ensure delivery of standard care.

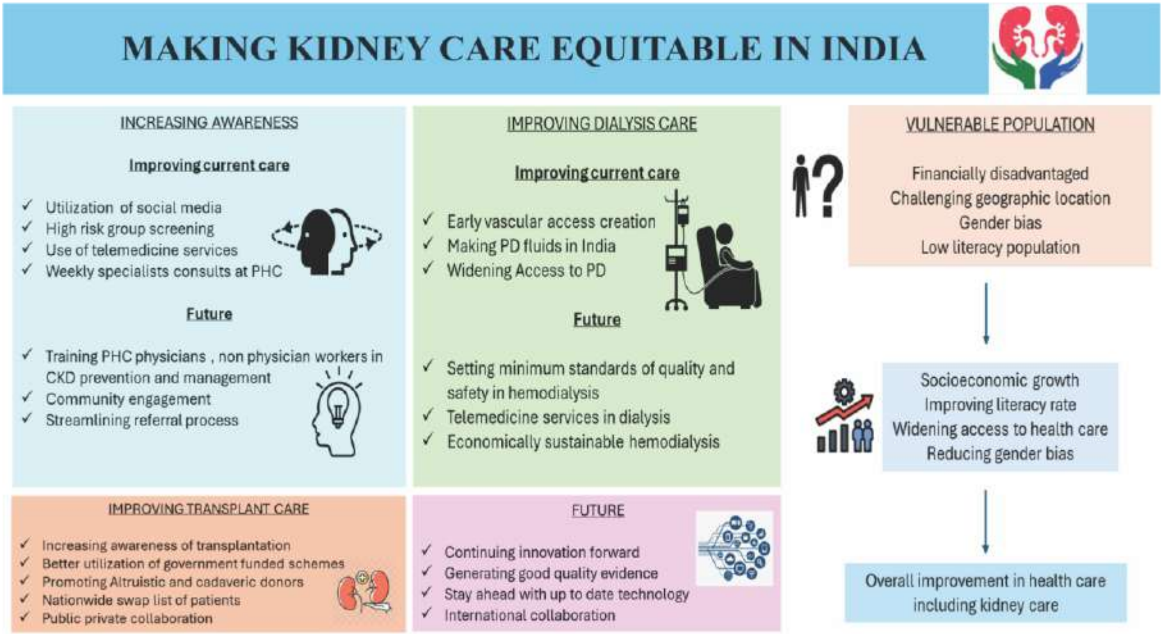
Health system financing, Medical products, vaccines and technologies: Even today, over 90% of patients requiring renal replacement therapy (RRT) in India die because of inability to afford care, and even in those who do start RRT, 60% stop for financial reasons and lack of access. National Dialysis Services Program proposed that each district hospital offer HD services in a Public Private Partnership model resulting in a rapid uptake of hemodialysis services yet there was a large drop out rate.PD is a simple, safe, inexpensive, and efficient method for renal replacement with lower out of pocket expenditure compared to HD but is not included in the initial national dialysis programme. PD is approved only in 14 states/UTs. By including this therapy in the full-fledged phase, the patients will benefit from lessening their expenditure including travel cost and disruption in daily activities, and this can lead to greater lifestyle flexibility and independence. 'Make in India' applied to making PD fluid in India may be a gamechanger in converting PD into an affordable modality of RRT.

Addressing the formidable hurdles of exorbitant care expenses and organ scarcity remains a pivotal challenge within the transplantation landscape in India. Although select states offer government-funded transplantation schemes, they are not maximally leveraged. Enhancing our public sector's capabilities by harnessing all available expertise and establishing a financial framework to alleviate patient burdens, fostering public-private collaborations, would foster greater equity in transplantation services across India. The enforcement of the Transplantation of Human Organs Act (THOA) has effectively curbed illicit transplants and spurred collaborative organ sharing initiatives between private and public hospitals in certain regions, marking a transformative shift towards deceased donor transplants.

Health information systems, Leadership and governance: Regrettably, the National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS), India's flagship NCD prevention program, does not encompass kidney care. Advocacy for equitable kidney care in India can be made impactful by data and statistics from our own country. Last few decades has seen some collaborative efforts of towards multicenter studies and establishment of state level deceased donor kidney transplant waitlists but we are far from establishment of regional or national registries. This is a call to action for nephrologists, nephrology societies and regional and national bodies to innovate and collaborate so as to persuade the stake holders to give CKD and kidney care its due attention in national programs.

Increasing awareness and instituting preventive measures such as promoting healthy lifestyle and promoting health-seeking behavior can go a long way in reducing the risk factors of CKD like diabetes and hypertension and therefore burden of CKD itself. These are invaluable in resource limited country like ours. A holistic approach to tackle this issue entails community engagement, integrating awareness campaigns with community events at local level and national levels such as World Kidney Day, use of social media to disseminate reliable information and partnerships between nephrology societies and other professional organizations and NGOs can increase the outreach of preventive strategies.

To conclude, our country has miles to go in the journey of attaining equitable access to kidney care. This gargantuan task requires a collective and collaborative effort from us all, motivated health care workers, professional societies and governmental and non-governmental organizations.



MAKING KIDNEY CARE EQUITABLE IN INDIA

INCREASING AWARENESS

Improving current care

- ✓ Utilization of social media
- ✓ High risk group screening
- ✓ Use of telemedicine services
- ✓ Weekly specialists consults at PHC

Future

- ✓ Training PHC physicians , non physician workers in CKD prevention and management
- ✓ Community engagement
- ✓ Streamlining referral process

IMPROVING DIALYSIS CARE

Improving current care

- ✓ Early vascular access creation
- ✓ Making PD fluids in India
- ✓ Widening Access to PD

Future

- ✓ Setting minimum standards of quality and safety in hemodialysis
- ✓ Telemedicine services in dialysis
- ✓ Economically sustainable hemodialysis

VULNERABLE POPULATION

Financially disadvantaged
Challenging geographic location
Gender bias
Low literacy population

Socioeconomic growth
Improving literacy rate
Widening access to health care
Reducing gender bias

Overall improvement in health care including kidney care

IMPROVING TRANSPLANT CARE

- ✓ Increasing awareness of transplantation
- ✓ Better utilization of government funded schemes
- ✓ Promoting Altruistic and cadaveric donors
- ✓ Nationwide swap list of patients
- ✓ Public private collaboration

FUTURE

- ✓ Continuing innovation forward
- ✓ Generating good quality evidence
- ✓ Stay ahead with up to date technology
- ✓ International collaboration

Dr Smita Divyaveer
Associate Professor, Dept of Nephrology, PGIMER Chandigarh.

&

Dr Vaishnavi Venkatasubramanian
Senior Resident, Dept of Nephrology, PGIMER Chandigarh.

Life threads : Conversation with a Kidney Warrior

In the quiet corridors of the dialysis center, where the hum of machines blends with the rhythm of weary hearts, the story unfolds. This story belongs to the brave soul, a 37-year-old male who is navigating life tethered to tubes and needles, bodies in both battlegrounds and sanctuaries.

Good morning, Mr. Satyam

Thank you for taking the time to speak with me today. How are you feeling?

Mr. Satyam : Good morning. Thank you. I'm feeling alright, considering everything.

Me : I understand you've been dealing with kidney issues. Could you tell us a bit about your experience ?

Mr. Satyam : Yes, certainly. I was diagnosed with chronic kidney disease 9 years ago, and it's been quite a journey since then. My kidneys have been gradually declining, and now I'm at the stage where I am on thrice per week dialysis, and on a list for transplant prospects.

Me : That must be incredibly challenging. Can you share some of the difficulties you've faced in trying to access dialysis or a transplant ?

Mr. Satyam : Absolutely. Navigating the healthcare system for treatment has been challenging due to long waiting lists at dialysis centers and finding convenient locations. And if a patient is HCV positive, the hassle of finding a suitable center and the inability to reuse dialysers adds to the financial strain.

Me : Can you share your thoughts about when you first were told you would be requiring dialysis ?

Mr. Satyam : At 29 years of age, I came to know about my disease which led to a temporary halt in my life. Dialysis is a lifeline, but it drains energy, time, and money, and exposes to infections and complications. Dialysis is a half-life, and I used to yell at staff for empathy, but now it is my only companion and a lifeline. The sterile walls of the dialysis centre have witnessed my tears, prayers, and unwavering determination.

Me : That sounds like a logistical nightmare. How about the option of a kidney transplant ?

Mr. Satyam : Ah, the promise of a new kidney - the beacon of hope that flickers in the distance. Transplantation is another avenue I've explored, but it comes with its own set of challenges. Finding a suitable donor can be incredibly difficult, especially since I don't have any family members who are a match. Even if I do find a match, there's still the issue of affordability. The cost of surgery and post-transplant medications can be overwhelming, especially if insurance doesn't cover everything. There is a long waiting list of people like me, who hope for a compatible donor, even though I am registered under the deceased donor program in a government hospital. There is also a lot of paperwork, tests, and costs involved and a lot of clearances and even if you get that through during this time by mistake you have contracted any infection you have to restart the process. And even if I get a transplant, there is no guarantee that it will work. I might face rejection, infection, or other problems. A transplant is not a guarantee. It is a gamble.

Me : Can you share if you've sought treatment solely from private healthcare providers, or have you also explored government healthcare facilities ? If you've experienced both, did you encounter any notable differences or discrepancies between the two sectors, and how would you describe your overall experience ?

Mr. Satyam : Yes, as a patient like me who is also HCV positive, my experience with healthcare sectors has been quite nuanced. Initially, I sought treatment from private healthcare providers due to the perceived higher quality of care and more specialized services. However, I also visited government healthcare facilities when I encountered financial constraints or needed additional support.

Private facilities offer advanced equipment and shorter wait times but can be expensive. Government facilities are more accessible and offer financial assistance programs. However, I've faced longer wait times, limited access to medications, and heavy patient overload. Balancing quality of care and affordability is crucial for managing my condition. Kidney disease is a financial maze, with insurance battles, copayments, and hidden charges. I'm grateful for the support I've received from both sectors in managing my condition.

Me : It sounds like you're facing barriers at every turn. Have you encountered any other obstacles in your journey ?

Mr. Satyam : Oh, definitely. There's also the emotional toll that all of this takes. Living with the uncertainty of not knowing when or if I'll get the treatment, I need can be incredibly stressful. It's hard not to feel like I'm constantly fighting an uphill battle.

Me : I can only imagine how tough that must be. How have you been coping with everything ?

Mr. Satyam : I have a strong support system from my friends, but after my mom's death and my father being a cardiac patient, none of my relatives are of any help.

Despite facing numerous challenges, I completed my MBA and still persevered in the face of adversity. I have struggled to maintain employment due to my health status and have experienced social isolation. However, I remain determined to pursue my dreams and have founded an NGO for underprivileged children. I remain hopeful for a kidney transplant while continuing to fight for my health and future.

Me : Well, your resilience is truly admirable. Thank you for sharing your story with me today. I wish you all the best in your journey towards better health and your wait for transplant ends soon.

Mr. Satyam : Thank you for talking to me. It's been a pleasure sharing my story.

Me : You are more than your failing kidneys, the keepers of hope and the silent heroes of unsung stories.

Dr Urvashi Khan
2nd year DrNB Resident, Department of Nephrology
Dharmshila Narayana Superspeciality Hospital, Delhi

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and Proton Pump Inhibitors (PPIs) and Their Role in Acute Kidney Injury : A Critical Overview in the Context of India

"The person who takes medicine must recover twice, once from the disease and once from the medicine" - William Osler

Non-steroidal anti-inflammatory Drugs (NSAIDs) and Proton Pump Inhibitors (PPIs) are widely prescribed (very often self prescribed) medications in India, commonly used to manage various conditions including pain, inflammation, and gastrointestinal disorders. In clinical practice, both these drugs are often co-prescribed though it has been reported that the risk of AKI is higher when used together. Despite their efficacy, concerns have been raised regarding their potential to induce acute kidney injury (AKI), particularly in certain patient populations. This article aims to explore the association between NSAIDs, PPIs, and AKI in the Indian context, shedding light on studies and proposed mitigation strategies.

Proton Pump Inhibitor (PPI)-Induced AKI :

PPIs, introduced in 1989, are commonly prescribed for upper gastrointestinal disorders. While initially perceived as safe, evidence suggests a link between PPI use and AKI, notably through the development of Acute Interstitial Nephritis (AIN), resulting from hypersensitivity reaction to their metabolites. Antoniou et al's population-based study of 3 lakh PPI users revealed a significantly higher AKI rate among PPI users compared to controls. The AKI rate was 13.49 Vs 5.46 per 1000 patient-years (HR 2.52, 95% CI 2.27 – 2.79). Certain risk factors exacerbate the incidence, such as multiple drug allergies and older age. Studies also indicate a 36% higher incidence of chronic kidney disease probably mediated via subclinical AIN among long-t recent erm PPI users in comparison to non-users (Nochaiwong et al). Usage of PPI for more than 3 to 6 months, twice daily dosing was associated with a higher risk of CKD. At 10-year usage, the number needed to harm for PPI-induced CKD was 30.(Santos et al, Moledina et al). The underreporting of PPI indications underscores the importance of judicious prescribing and heightened vigilance for adverse effects. A Chinese study by Liu et al reported that up to 56% of PPI prescriptions did not have appropriate indications. The situation is likely no different in our country.

NSAID-Induced AKI:

The two most common types of NSAID-induced AKI are

(i) hemodynamically mediated and (ii) Acute Interstitial nephritis with or without nephrotic proteinuria (Lucas et al). The risk of hemodynamic-mediated AKI is higher in neonates and the elderly, as well as in patients with cardiovascular, liver, kidney, or chronic disease, or with reduced circulating blood volume, such as patients using NSAIDs combined with diuretics and RAAS inhibitors (Zhang et al).

A study published in the LANCET regional health by Prasad et al. corroborates NSAIDs' role in drug-induced AKI, emphasizing the need for a cautious approach to prescribing these medications. Among 3711 patients in this ISN-India AKI registry-based study, 292 had drug-induced AKI and among them, 44.8% was attributable to NSAIDs. Another study by Prasad et al elucidated elevated kidney injury biomarkers in Spondyloarthritis patients receiving regular NSAID therapy, with significant implications for renal function even in patients with normal renal function tests (RFTs). It was found that biomarkers like KIM-1 and NGAL started rising by week 1 and in patients who discontinued by week 6, it returned to normal levels by week 12. The study proposed measures such as baseline RFT assessment before NSAID initiation, limited duration of therapy, and patient education regarding the importance of regular renal function monitoring to prevent the occurrence of AKI.

How do we reduce the risk?

Given the substantial burden of NSAID and PPI-induced AKI, proactive measures are imperative. Prescribing NSAIDs and PPIs should adhere to evidence-based indications, with emphasis on minimal dosing and short-term courses. Regulatory measures, such as requiring creatinine reports for NSAID refills and enhanced surveillance of drug dispensing practices, can further mitigate the risk of AKI. Alternatively Histamine-2 blockers may be used in place of PPI where indicated.

Healthcare providers must prioritize patient safety by adhering to stringent prescribing practices and promoting renal health awareness. Collaborative efforts between clinicians, policymakers, and regulatory bodies are essential to mitigate the rising incidence of NSAID and PPI-induced AKI and uphold the principle of "first, do no harm" in medical practice.

Prof Narayan Prasad
Professor and Head
Sanjay Gandhi Postgraduate Institute of
Medical Sciences, Lucknow

Dr Jeyakumar Meyyappan
Assistant Professor
Sanjay Gandhi Postgraduate Institute of
Medical Sciences, Lucknow

The dark side of fairness creams - unravelling the rise of NELL1 associated membranous nephropathy

Over the past few years, we at Aster MIMS Kottakkal, have been intrigued by the unusually high proportion of NELL1 positivity among our membranous nephropathy (MN) cases. When 4 young people turned up in early 2023 with biopsy-proven NELL1-associated membranous nephropathy (NELL1MN), all of whom admitted to using fairness creams, we decided to go digging. A look at our primary MN between Jul 2021-Sep 2023 revealed that 15 out of 22 cases (68.4%) were NELL-1 positive, of which 13 (86.6%) admitted to regular use of fairness creams. They were negative for viral hepatitis, autoimmune markers, and malignancy and despite Kottakkal, a quaint suburban town in North Kerala, being renowned for its Ayurvedic care, they denied using any indigenous medications.

The face cream cohort was young (median age 30 years) with no gender bias with most having only subtle symptoms like frothuria, mild edema, or fatigue and preserved GFR despite very heavy proteinuria (mean 13.33g; range 6.5-22 g). Nine patients showed high levels of mercury in blood &/or urine. The unregulated branded creams being used when analyzed, revealed alarmingly high amounts of mercury (over 10000 times above permissible limits). One patient showed a significant drop in blood mercury levels, 3 months after stopping cream usage. A clear link between these fairness creams with high mercury content and NELL1 MN was thus established (publication in progress).

RAAS blockade and withdrawal of creams achieved either complete or partial remission in all patients with partial and complete remission taking a mean time of 4.8 (3.25) months and 10.3 (2.73) months, respectively, avoiding unnecessary immunosuppression. One patient developed cerebral vein thrombosis (before renal biopsy) indicating that cream-induced MN was not benign.

How does mercury cause MN? Well, mercury induces immunomodulation, possibly through T-cell mediated B cell upregulation, and may act as hapten targeting GBM antigens including possibly NELL1, causing immune complex deposition and MN. But not everyone who uses these creams develops nephrotic syndrome, suggesting a genetic predisposition with mercury exposure acting as a second hit.

Fairness creams are at the forefront of the lucrative cosmetic industry in India, driven by our societal obsession with fair skin. These unregulated creams are popular among the youth as their high mercury content ensures quick and effective skin tone lightening. These are easily available right from your "kinara" stores to online marketing platforms being further propelled by social media endorsements.

While the association of skin creams with high mercury content with membranous nephropathy has been reported before from India and abroad, the linkage with NELL1 as the putative antigen mediating this was only recently reported from Mumbai where it was described in 3 persons from the same family. Our independent observations made around the same period point to a potential nationwide public health issue.

The subtle clinical presentation coupled with physician unawareness regarding this entity means that the history of use of fairness creams may often be missed. Our findings may just be the tip of the iceberg, calling for urgent measures to educate the public and sensitize the physician community about the dangers of contaminated topical products. Regulatory authorities need to step up to curb the availability and distribution of these creams. Changing societal attitudes towards natural skin tone will however pose a far greater challenge but is essential in addressing the root cause.

Epidemiologic studies to study the extent of fairness cream usage alongside increased pharmacovigilance and setting up toxin registries at regional and national levels (as proposed by Dr Bansal at ISNCON 2023 Kolkata) could help convince the central health authorities to take evidence-based policy decisions.

In conclusion, the rise in NELL1MN cases due to mercury-containing fairness creams demands immediate action. Educating the public, sensitizing healthcare providers, and enhancing regulatory measures are crucial steps toward mitigating this public health issue.

It's time to embrace natural beauty and ditch these creams !

Dr Ranjit Narayanan
Consultant Nephrologist,
Iqraa Hospital Calicut and Aster MIMS Kottakkal,
Kerala