GUEST EDITORIAL

The Nine Resolves and Nephrology: An Eco-Social Framework for Kidney Health in India

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Recently, our honorable Prime Minister shared nine resolves (*nav sankalp*) that every citizen should make. These were chosen, and curated, from a national perspective. The self-stated aim of these actions and activities is to ensure self-sustaining growth, and self-sufficiency, for the country. Viewed from a nephrology perspective, these resolves offer a unique framework to rethink kidney health and nephrology practice in India. Directly or indirectly, they act as primordial, primary, and in some cases, secondary preventive measures. When adopted by nephrology units, policymakers, and the society, these resolves optimize all aspects of the biopsychosocio-environmental quadruple of health. This editorial interprets each resolve through a nephrology point-of-view and integrates contemporary concepts to show how simple societal commitments can collectively contribute to delaying onset of chronic kidney disease (CKD), slowing progression, improving dialysis safety, reducing costs, and lowering the environmental footprint of renal care.

The CKD burden in India continues to rise, driven by diabetes, hypertension, pollution, climate stresses, unhealthy diets, sedentary lifestyles, and socioeconomic inequities[1]. The dialysis services are rapidly expanding under national programs, including Pradhan Mantri National Dialysis Programme (PMNDP)[2]. There is continuous need for sustainable, environmentally responsible, and people-centric kidney care. In this setting, the Nine Resolves shared by our honorable Prime Minister provide an aligned framework- although not originally designed for health- that can be scientifically repurposed to strengthen kidney care from primordial to tertiary level[3]. Each resolve either reduces CKD risk, improves metabolic and cardiovascular health, enhances dialysis safety, or reduces the healthcare sector's environmental footprint (Table 1).

Water conservation is the first resolve and it is particularly important for nephrology because dialysis is one of the most water-intensive procedures in modern medicine. Hemodialysis requires 300–500 liters of water per session, most of which becomes RO reject water[4]. In this era of green nephrology, we should adopt a systematic green dialysis approach by reusing RO reject water for gardening, cleaning, cooling systems, and toilet flushing[5]. We can conserve up to 200–300 liters of water per treatment session by these green interventions. Updated RO technology with higher recovery ratios, rainwater harvesting integrated into dialysis units, periodic water audits, and optimal use of peritoneal dialysis (PD) wherever appropriate, can significantly reduce the environmental impact of dialysis care[4,5]. Nevertheless, promotion of water stewardship creates awareness among patients, caregivers, and hospital staff, reinforcing ecological responsibility in society.

Urban tree plantation as well as reforestation has an indirect but significant impact on kidney health through air quality improvement. It has been proven through various epidemiological studies that higher exposure to particulate matter 2.5 (PM2.5) and air pollutants accelerates CKD progression, increases the incidence of acute kidney injury (AKI), and heightens the cardiovascular mortality risk in CKD patients. Poor air quality increases oxidative stress, systemic inflammation, and endothelial dysfunction pathways linked with CKD progression[6,7]. By improving green cover around hospitals, urban neighborhoods, and dialysis centers, tree plantation initiatives can reduce the CKD burden and contribute to national "One Health" efforts.

Patients with CKD, especially those on maintenance dialysis, are more prone to infections. This is because of their compromised immune systems secondary to uremia and other underlying comorbidities[8,9]. The cleanliness resolve aligns directly with infection control

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Table 1: The nine resolves: Nephrology applications, pathophysiological link, and actionable strategies

Resolve	Nephrology Relevance	Pathophysiological Link	Actionable Strategies
Water conservation	Green nephrology, dialysis sustainability	High water consumption in HD; RO reject waste	RO reject reuse, water audits, rainwater harvesting, efficient RO units
Tree plantation	Prevents pollution-linked CKD/AKI	Lower PM2.5 Less oxidative stress and endothelial injury	Tree plantation drives in hospitals, green zones near dialysis units
Cleanliness	Prevents infection in HD & PD	Pathogen transmission via surfaces, water, hands	Hand hygiene, clean bathrooms, waste segregation, safe dialyzer reprocessing
Vocal for Local	Affordable nephrology drugs, dialysis consumables	Cost barriers Poor drug adherence and follow-up Poor dialysis adherence	Promote Indian generics, indigenous dialysis machines and PD fluids
Domestic tourism	Improves metabolic and psychosocial health	Physical activity improves BP, diabetes, inflammation	Encourage safe travel for CKD/PD, renal rehabilitation, caregiver rejuvenation Medical tourism
Natural farming	Reduction of EDCs Lower CKD risk	Pesticides & Per- and polyfluoroalkyl substances cause tubular toxicity	Promote organic food in daily diet; awareness for CKD patients
Healthy diet and oil restriction	Core renal nutrition	Obesity, diabetes mellitus, hyeprtension Metabolic nephrology	Millet promotion, CKD-specific diet counselling, sodium restriction
Yoga and sports	BP control, stress reduction	Improved insulin sensitivity, Heart rate variability, sympathetic balance	Yoga sessions for dialysis patients, intradialytic exercise
Helping the poor	Reduces inequities in CKD outcomes	Low socioeconomic status has late presentation & higher mortality	Free dialysis schemes, community screening, social worker support

measures in dialysis care, which include hand hygiene practices, clean bathrooms, safe drinking water, sterile dialyzer reprocessing areas, appropriately labeled biomedical waste, and clean waiting areas. Improving hygiene and cleanliness can reduce the transmission of hepatitis B and C, as well as catheter-related bloodstream infections[10]. This resolve has direct implications for kidney care through improving patient outcomes and reducing healthcare-associated infections.

The resolve to "vocal for local" is necessary to improve kidney care in our country. We need self-reliance in kidney medicines, dialysis consumables, and biomedical devices. Local production of medicines like Obinutuzumab, Eculizumab, Basiliximab, and antithymocyte globulin, as well as crucial consumables such as high flux dialyzers, PD bags, and PD fluids, would be beneficial to patients with CKD through reduced treatment costs and improved supply stability[11,12]. This would be pivotal in the peripheral kidney care centers, where cost barriers lead to poor adherence and accelerated CKD progression. The indigenous development of dialysis machines, portable hemodialysis (HD) systems, water-treatment units, and PD consumables also strengthens national resilience and supports the scalability of dialysis programs[11].

Domestic tourism has indirect but essential socio-cultural benefits to patients with CKD and their families. Travel promotes physical activity, stress reduction, sunlight exposure, and social bonding. These factors improve glycemic control, metabolic health, BP regulation, and quality of life. Encouraging safe travel practices in CKD fosters psychosocial well-being and supports lifestyle modification. Also, the development of new travel circuits improves connectivity of tier-2 and tier-3 cities, as well as villages, to tertiary kidney care centers[13]. This improves dialysis compliance, as well as regular follow-up for patients residing in remote areas.

Environmental nephropathies, including CKD of unknown origin (CKDu), are increasingly being recognized by policymakers[14]. Presently, more stress has been placed on natural farming and the reduction of endocrine disruptor chemicals (EDCs). EDCs such as pesticides, per- and polyfluoroalkyl substances (PFAS), Bisphenol A (BPA), and phthalates are associated with chronic Tubulointerstitial injury, metabolic syndrome, hypertension, infertility, and reduced renal reserve[15]. Promoting natural or chemical-free farming reduces the burden of environmental nephrotoxins in the food chain and lowers exposure among vulnerable populations, especially in agricultural communities[14].

This resolve intersects with environmental nephrology, an emerging discipline that emphasizes chemical safety and organ protection.

The focus on healthy diet, millets, and cooking oil restriction aligns strongly with nephrology dietary principles. Millets have a low glycemic index and modulate insulin resistance, thereby reducing the risk of diabetes—a leading risk factor for CKD[16].

Reducing excessive cooking oil supports cardiovascular health, lowers dyslipidemia, and attenuates chronic inflammation[17]. CKD care already emphasizes sodium restriction, phosphorus control, potassium balance, and protein optimization; thus, this resolve naturally dovetails into standard renal nutrition counselling. For dialysis patients, intentional inclusion of good-quality protein and individualized potassium monitoring is essential, while millets may be recommended with potassium awareness[16,18].

Yoga and sports are part of lifestyle modification that is essential to prevent organ failure[19,20]. As we are struggling with chronic diseases like diabetes, hypertension, and obesity, yoga and sports provide a non-pharmacological method to improve blood pressure (BP), insulin sensitivity, heart rate variability, and stress resilience- factors strongly associated with kidney health. It is scientifically proven that yoga reduces sympathetic overactivity and inflammatory markers[19], while intradialytic exercise improves hemoglobin levels, muscle mass, and physical performance in patients with kidney disease[21]. Introducing yoga sessions in dialysis units, patient support groups, and renal rehabilitation clinics further strengthens holistic kidney care.

Helping the poor is the last but the most important resolve suggested by our Prime Minister. Poverty is one of the strongest determinants of mortality in patients with CKD[22]. It is linked with CKD progression, late presentation, and reduced access to kidney replacement therapy[22,23]. This underprivileged community has lower health awareness, limited access to diagnostics, poor diet quality, and inconsistent medication or dialysis adherence. The government is expanding PMNDP and strengthening Ayushman Bharat coverage to help the underprivileged[2]. Still, there is a need to ensure the availability of free essential nephrology medicines. It is time we create social worker support networks for families of patients suffering from CKD and end-stage kidney disease (ESKD)[24]. This can directly translate into improved survival and reduced catastrophic health expenditure.

CONCLUSION

To conclude, the nine resolves shared by our honorable Prime Minister provide us a public health blueprint for kidney care. By integrating these nine resolves, we can address all aspects of the biopsychosocio-environmental quadruple of kidney care in India. As we expand our kidney care services, a sustainable, cost-effective, culturally aligned, and environmentally responsible model based on these resolves can guide the clinicians, administrators, and policymakers toward kidney care that is preventive, patient-focused, community-integrated, and ecologically conscious.

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