GCND
G Clin Nefrol Dial 2025; 37: 1-4
ISSN 2705-0076 | DOI: 10.33393/gcnd.2025.3512
EDITORIAL

World Kidney Day: a call to action for chronic kidney disease prevention and multidisciplinary care

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Abstract

Chronic Kidney Disease (CKD) has emerged as a major global public health challenge, affecting approximately 10% of the population worldwide. Often asymptomatic in its early stages, CKD frequently goes undiagnosed until significant renal impairment has occurred, contributing to a strong risk of cardiovascular disease, the leading cause of death in these patients. World Kidney Day is a vital opportunity to advocate for prevention, screening, and early intervention. Large-scale screening programs permit the identification of undiagnosed CKD cases, allowing timely implementation of pharmacological and lifestyle interventions to slow disease progression. Given that modifiable risk factors such as obesity, hypertension, diabetes, and metabolic syndrome play a significant role in CKD development, promoting healthy lifestyles, adequate hydration, and dietary modifications is crucial. Routine screening—including urinalysis, blood pressure monitoring, and metabolic assessments—should become standard in high-risk populations to facilitate early intervention. As CKD progresses, a multidisciplinary approach is essential. Nephrologists, nurses, and dietitians play a key role in ensuring comprehensive patient care, addressing not only renal function but also cardiovascular, metabolic, and nutritional aspects. Advances in personalized therapies have revolutionized CKD treatment, significantly reducing disease progression and cardiovascular mortality. Moreover, in advanced CKD (GFR <30 mL/min), timely preparation for renal replacement therapy and preemptive kidney transplantation are critical to improving outcomes. In conclusion, CKD prevention, early detection, and multidisciplinary management must be prioritized to mitigate its growing burden. World Kidney Day is a call to action for global efforts in prevention, innovation, and patient-centered care.

Keywords: Chronic kidney disease, Global public health, Prevention, World Kidney Day

Chronic Kidney Disease: A Global Public Health Emergency

Chronic Kidney Disease (CKD) is actually one of the most pressing public health challenges worldwide. Often asymptomatic in its early stages, it remains undiagnosed in millions of people until it has progressed to advanced stages, where the burden of complications becomes overwhelming (1). Current estimates suggest that approximately one in ten individuals globally is affected by some degree of kidney dysfunction, and this number continues to rise due to the increasing prevalence of hypertension, diabetes, and aging populations (2).

Beyond its direct impact on kidney function, CKD is strongly associated with an increased risk of cardiovascular disease, which remains the leading cause of death in patients with kidney disease. Projections for the coming decades paint a concerning picture: by 2040, CKD is expected to become the fifth leading cause of mortality worldwide (3). Despite these alarming statistics, kidney disease often remains overshadowed by other chronic conditions, receiving insufficient attention in terms of awareness, screening programs, and resource allocation.

World Kidney Day: A Global Opportunity for Action

Against this backdrop, World Kidney Day, scheduled this year on March 13, serves as an important moment to reinforce the importance of both primary prevention strategies aimed at reducing the incidence of CKD and secondary and tertiary interventions, designed respectively to delay disease progression and manage complications effectively. One of the most impactful initiatives undertaken globally on this day is

Received: February 28, 2025
Accepted: March 3, 2025
Published online: March 13, 2025

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the implementation of large-scale screening programs. These efforts aim to identify individuals who have undiagnosed kidney disease, allowing for the earliest possible intervention. The insidious nature of CKD, particularly in its initial phases, means that many individuals remain unaware of their condition until significant damage has occurred. This delayed diagnosis represents a major obstacle to effective treatment, as early therapeutic interventions—including pharmacological strategies and lifestyle modifications—are essential in slowing disease progression.

The Role of Prevention: Averting CKD Before It Begins

To contrast the rise of kidney disease, emphasis must be placed on modifiable risk factors. Obesity, metabolic syndrome, hypertension, and diabetes mellitus are among the primary contributors to CKD, and proactive management of these conditions is imperative (4). Encouraging regular physical activity, smoking cessation, and a balanced diet low in sodium and processed foods can significantly reduce the incidence of both metabolic disorders and kidney disease. Furthermore, adequate hydration has been advocated as a fundamental preventive measure (5), alongside strategies to limit excessive dietary salt intake, which remains a major contributor to hypertension-related kidney damage (6). Routine screening for kidney disease should become a fundamental part of preventive healthcare. A simple urinalysis (dipstick test) can detect proteinuria or hematuria, early markers of kidney damage, even in asymptomatic individuals (7,8). Additionally, blood pressure measurement, fasting glucose levels, and Body Mass Index (BMI) assessment provide crucial insights into an individual's risk profile for CKD and cardiovascular disease (9). Implementing regular screening, particularly in high-risk populations, could dramatically alter the trajectory of kidney disease progression by enabling early lifestyle interventions and pharmacological management.

The Multidisciplinary and Polytherapy Approach: The Future of CKD Management

As CKD progresses, it becomes important to consider its consequences, particularly in terms of cardiovascular health, mineral and bone metabolism, and nutritional status, a multidisciplinary approach for optimizing patient care (10). At the core of this approach is a collaborative team that includes nephrologists, nurses, and dietitians, each playing a crucial role in ensuring comprehensive care.

In the contest of multidisciplinary context, nurses play an important role in the management and prevention of CKD (11). Many studies in literature highlight that support from specialized nurses for CKD patients can help reduce the decline in renal function through an integrated and multifactorial therapeutic approach, especially in educating CKD patients on the modification of their lifestyle (12). Training and patient education are key competencies of the nursing care process and constitute a fundamental pillar of clinical management. Through these skills, nurses facilitate the patient's understanding of their clinical condition, promote adherence to prescribed treatments, and encourage the adoption of strategies aimed at improving quality of life (13).

At the same time, dietitians/nutritionists in the management of CKD are crucial, providing specialized nutritional advice to optimize patient outcomes alongside clinicians and nurses. Nutritional interventions can have a significant impact on disease progression, metabolic disorders, and the overall quality of life of patients with CKD.

The key responsibilities of the dietitian and nutritionist include personalized nutritional assessment and recommendations tailored to the patient's stage of CKD and comorbidities, as well as a treatment plan. This may include adjusting the intake of macronutrients (e.g., protein, carbohydrates, fats) and micronutrients (e.g., potassium, phosphorus, sodium, vitamins) to prevent malnutrition, manage electrolyte imbalances and reduce the risk of complications such as cardiovascular disease and mineral-bone disorders (14).

Dietitians and nutritionists also play a key role in educating patients about dietary restrictions and modifications required for dialysis and non-dialysis CKD patients. Through patient-centered counseling, they help patients adhere to dietary restrictions and manage potential symptoms, such as nausea or taste changes, that may affect nutritional intake (15).

Recent studies have highlighted the importance of early nutritional intervention in slowing the progression of CKD and improving the outcomes of patients on dialysis (16). Nutritionists also support weight management strategies for the prevention or treatment of sarcopenic obesity, which is a common problem in CKD and is associated with poorer prognosis.

Concerning the pharmacological treatments for CKD. Traditionally, the renin-angiotensin system (RAS) inhibitors, including ACE inhibitors and ARBs, have formed the foundation of CKD management (17). However, the introduction of SGLT2 inhibitors has revolutionized treatment paradigms, demonstrating unequivocal benefits in slowing kidney disease progression and reducing cardiovascular mortality (18,19). More recently, nonsteroidal mineralocorticoid receptor antagonists (such as finerenone) have emerged as a promising therapeutic option, particularly for patients with both CKD and diabetes (20). The impact of these therapies has been so significant that new international guidelines now emphasize combination therapy, integrating these agents for a more comprehensive approach to disease management (21).

Advanced CKD: Preparing for Renal Replacement Therapy

For individuals with advanced CKD (GFR <30 mL/min), disease management shifts towards addressing complications

such as anemia, mineral and bone disorders, and cardiovascular disease. In the late stages of the disease, a multidisciplinary approach is essential.

Nurses have become even more strategic, particularly in informing and preparing patients for renal replacement therapy (22). The choice of the most appropriate replacement therapy for a patient depends on their and their family's available options, the pros and cons of each, and how their management of comorbidities will affect outcomes (23). For this reason, as part of nursing care management, the nurse develops a structured pathway to provide both the patient and the caregiver with all the necessary information about renal replacement treatments, such as hemodialysis and peritoneal dialysis (24), while also addressing the option of living donor transplantation from the outset (25).

Living donor transplantation is considered the optimal first-line treatment for patients with advanced CKD, as it ensures the best outcomes in terms of survival and quality of life. Among the various options mentioned above, non-dialytic management is also a recognized treatment option.

Particular attention is given to the nursing role in preparing the patient for vascular access selection for those opting for hemodialysis and to the management of peritoneal catheters for patients who will be undergoing peritoneal dialysis, based on the best available evidence.

Therefore, a multidisciplinary educational approach during the pre-dialysis period has been independently associated with improved quality of life and reduced healthcare costs (26). In advanced CKD, nutritional therapy has the aim to relieve uremic symptoms, improve nutritional status, possibly delay the need for dialysis, and prepare patients for possible kidney transplantation. Muscle and fat wasting can develop as renal failure progresses, exacerbated by comorbidities and frailty, particularly in the elderly, who make up a large proportion of those affected. As a result, nutritional status is often compromised, and protein-energy wasting is common, requiring dietary adjustments in this population. In addition to dietary adjustments, nutritional therapy can help manage uremia and other complications such as electrolyte and acid-base imbalances, water and salt retention, and mineral and bone disorders. Dietary interventions can also be used for conservative management of uremia or as a means of delaying or avoiding dialysis, depending on the patient's preference (27). Proper nutritional management is also an essential part of the transplant process, as it can influence the success of the procedure and reduce the risk of complications. By addressing nutritional deficiencies, managing comorbidities, and optimizing weight and metabolic status, the role of dietitian/nutritionist plays an essential role in preparing patients for kidney transplantation (28).

An equally critical aspect of care is the timely preparation for renal replacement therapy (29). When disease progression is inevitable, efforts should be made to identify candidates for kidney transplantation as early as possible. Preemptive transplantation—ideally from a living donor—offers the best long-term outcomes and should be prioritized whenever feasible. The role of the multidisciplinary team becomes even more essential at this stage, ensuring that patients receive adequate education, psychological support, and medical optimization before undergoing a transplant (30,31).

Conclusions

As we observe World Kidney Day, it is imperative to reflect on the urgent need for heightened awareness, early detection, and comprehensive management of CKD. The global burden of kidney disease continues to rise, and without a shift toward proactive prevention and multidisciplinary care, the future will see an even greater strain on healthcare systems. The recent advancements in pharmacotherapy and personalized medicine, as well as a multidisciplinary approach, offer hope for better disease management, yet these benefits can only be fully realized if patients receive timely diagnosis and access to integrated, team-based care. By investing in prevention, expanding screening programs, and fostering collaboration between healthcare professionals, we can significantly alter the course of CKD and improve outcomes for millions of individuals worldwide. World Kidney Day is not just a symbolic event—it is a reminder that the fight against kidney disease requires commitment, innovation, and a unified global effort. The time for action is now.

Disclosures

Conflict of interest: The authors declare no conflict of interest.

Financial support: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Authors' contribution: All authors contributed equally to this manuscript.

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