

Review Article

Regular Nephrology Follow-Up and Clinical Outcomes in Chronic Kidney Disease: A Narrative Review

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Received: 22 February 2026

Accepted: 26 February 2026

Published: 02 March 2026

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Abstract

Chronic kidney disease (CKD) is a progressive condition associated with substantial morbidity, mortality, and healthcare burden. Regular nephrology follow-up is recommended by international guidelines to slow disease progression, optimize therapy, and prevent complications. However, adherence to scheduled visits varies widely. This narrative review examines the impact of regular versus irregular follow-up on renal outcomes, cardiovascular events, hospitalization rates, mortality, and patient-reported outcomes. Evidence consistently shows that regular follow-up is associated with slower CKD progression, fewer cardiovascular complications, reduced unplanned hospitalizations, improved dialysis preparedness, and lower mortality. These findings underscore the importance of structured, continuous nephrology care and highlight the need for interventions to improve follow-up adherence.

Introduction

Chronic kidney disease affects approximately 10% of the global population and is associated with a high risk of progression to end-stage kidney disease (ESKD), cardiovascular morbidity, and premature death [1]. The natural history of CKD is strongly influenced by the quality and continuity of care patients receive throughout the disease course. International guidelines recommend regular nephrology follow-up, with visit frequency tailored to CKD stage and clinical complexity. Despite these recommendations, many patients do not adhere to scheduled appointments, and this variability appears to significantly influence clinical outcomes. This review synthesizes current evidence comparing outcomes in CKD patients who attend regular follow-up visits versus those who do not.

Methods

This narrative review draws on observational cohort studies, registry analyses, and guideline documents published over the past decade. Sources were selected for relevance to adult CKD populations (stages 3–5), with particular attention to studies evaluating follow-up frequency, adherence to nephrology care, and associated clinical outcomes. Given the heterogeneity of study designs, a narrative rather than systematic synthesis was chosen to integrate findings across diverse methodologies.

Results

Impact on CKD Progression. Regular nephrology follow-up is consistently associated with slower decline in eGFR and delayed progression to ESKD. Patients seen at guideline-recommended intervals benefit from timely adjustments in antihypertensive therapy, proteinuria management, correction of metabolic acidosis, and optimization of RAAS blockade [2]. In contrast, irregular follow-up correlates with accelerated CKD progression, often due to delayed recognition of modifiable risk factors such as uncontrolled hypertension or persistent proteinuria [3]. Late referral or infrequent monitoring is also associated with a higher likelihood of unplanned dialysis initiation [4].

Cardiovascular Outcomes. Cardiovascular disease is the leading cause of death in CKD. Patients who attend regular follow-up demonstrate lower

rates of cardiovascular events, including heart failure exacerbations and acute coronary syndromes [5]. This benefit is attributed to improved blood pressure control, anemia management, lipid optimization, and early detection of mineral metabolism disorders. Conversely, poor adherence to follow-up is linked to increased cardiovascular morbidity, reflecting the cumulative burden of uncontrolled CKD-related risk factors [6].

Hospitalization and Emergency Care. Regular follow-up is associated with fewer unplanned hospitalizations, particularly those related to volume overload, electrolyte disturbances, and uremic symptoms [7]. Patients who attend scheduled visits are more likely to receive anticipatory guidance, dietary counselling, and early intervention for emerging complications. By contrast, patients with irregular follow-up frequently present late in the disease course, often requiring emergency dialysis initiation, which is associated with higher short-term mortality and increased complication rates [8].

Mortality. Quantitative analyses consistently demonstrate a substantial mortality gap between CKD patients who attend regular nephrology follow-up and those who do not. Annual mortality rates range from 6–8% among regularly monitored patients to 12–18% among those with irregular or absent follow-up, representing nearly a two-fold increase [3,11]. Adjusted models confirm this association: regular follow-up is linked to a 35–45% reduction in all-cause mortality (HR 0.55–0.65), whereas irregular follow-up is associated with a 70–110% increase in mortality risk (HR 1.7–2.1) [2,4,9]. The disparity is even more pronounced in patients initiating dialysis. Early mortality (within 90 days) is 8–10% among patients who received structured pre-dialysis care, compared with 20–25% in those who initiated dialysis emergently or without prior nephrology follow-up [7,8]. Cardiovascular mortality follows a similar pattern, with a 30–40% reduction in regularly followed patients and a 50–80% increase in those lacking consistent monitoring [5,6]. Collectively, these data underscore the profound impact of structured nephrology care on survival in CKD. Patient-Reported Outcomes and Quality of Life. Regular follow-up contributes to improved quality of life, better symptom control, and enhanced patient engagement. Patients who attend scheduled visits are more likely to

receive psychosocial support, dietary guidance, and education about their condition—factors that significantly influence perceived well-being and treatment adherence [10]. Those without regular follow-up often report greater symptom burden and lower preparedness for disease progression.

Discussion

The evidence clearly indicates that regular nephrology follow-up is a critical determinant of outcomes in CKD. Consistent monitoring enables proactive management of modifiable risk factors, timely therapeutic adjustments, and prevention of avoidable complications. However, adherence to follow-up is influenced by socioeconomic barriers, limited health literacy, transportation challenges, and fragmented care pathways. Interventions such as telemedicine, multidisciplinary CKD clinics, patient education programs, and system-level strategies to improve access may help mitigate these barriers. Future research should focus on identifying effective strategies to enhance follow-up adherence and evaluating their impact on long-term outcomes.

Conclusion

Regular nephrology follow-up is strongly associated with improved renal, cardiovascular, and survival outcomes in CKD. Ensuring consistent monitoring should be a priority for clinicians and healthcare systems, as it represents a simple yet powerful intervention capable of altering the trajectory of chronic kidney disease.

Cite this article: Ennio Duranti. (2026) Regular Nephrology Follow-Up and Clinical Outcomes in Chronic Kidney Disease: A Narrative Review. *Japan Journal of Medical Science* 7 (1): 366-367.

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