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EDITORIAL

Improving Dialysis Care Through Contextual Evidence: From Nutritional Support to Diagnostic Innovation

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Chronic kidney disease (CKD) has emerged as one of the fastest-growing contributors to global morbidity and mortality, with its burden rising disproportionately in low- and middle-income countries. While advances in kidney replacement therapy have improved survival, the quality of dialysis care continues to depend not only on technology but also on careful attention to nutrition, hemodynamic stability, vascular access, infection prevention, and appropriate diagnostic strategies[1]. These interconnected domains define the daily challenges faced by nephrologists and dialysis teams and ultimately determine patient outcomes.

The articles featured in this issue of the journal exemplify how clinically relevant, locally generated research can address these challenges. Although each study examines a distinct aspect of nephrology practice, together they reinforce a common message: improving the lives of patients with CKD requires comprehensive, multidisciplinary, and context-specific care.

Protein-energy wasting remains one of the most prevalent and under-recognized complications of maintenance hemodialysis. Despite clear recommendations from international guidelines, many patients fail to achieve adequate dietary protein intake because of anorexia, inflammation, socioeconomic barriers, and dietary misconceptions[2]. The study entitled "*Effect of Oral Protein Supplementation on Nutritional Status and Quality of Life in Hemodialysis Patients*" highlights the potential benefits of simple nutritional interventions in improving both objective nutritional parameters and patients' quality of life. Such evidence is particularly valuable in resource-limited settings where sophisticated therapeutic options may be unavailable but nutritional support can be implemented with relatively modest investment[3]. The study also reminds clinicians that successful dialysis extends beyond achieving target urea reduction ratios; maintaining functional capacity, muscle strength, and patient well-being should remain equally important therapeutic goals.

Equally significant is the issue of intradialytic hypotension (IDH), one of the most frequent complications encountered during hemodialysis sessions. Traditionally regarded as an acute dialysis-related event, recurrent IDH is now recognized as an important contributor to cumulative organ ischemia involving the heart, brain, gastrointestinal tract, and residual kidney function[4]. The article "*Effects of Recurrent Intradialytic Hypotension on Physical and Mental Health Domains in End-Stage Renal Disease Patients Undergoing Hemodialysis*" appropriately shifts attention toward patient-reported outcomes, demonstrating that recurrent hypotension adversely affects both physical and psychological health. As dialysis programs increasingly embrace patient-centered care, minimizing symptomatic hypotension should become an essential quality indicator rather than merely an operational concern[5].

Reliable vascular access remains the lifeline of patients receiving maintenance hemodialysis. Although arteriovenous fistulae continue to represent the preferred vascular access because of superior long-term outcomes, complications remain common and frequently compromise dialysis adequacy[6]. The article "*Complications of Arteriovenous Fistula in Dialysis Patients: Incidence and Risk Factors in Dhaka City, Bangladesh*" provides valuable epidemiological data from a regional perspective. Such information is indispensable for developing evidence-based strategies tailored to local practice, including early referral for vascular access creation, standardized cannulation techniques, routine surveillance for stenosis, and timely endovascular or surgical intervention[7]. Preservation of vascular access is particularly important in countries where repeated access creation may be limited by financial and infrastructural constraints.

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Infection prevention remains another cornerstone of safe dialysis practice. Hepatitis B virus infection continues to pose significant challenges within dialysis units despite universal vaccination strategies and routine HBsAg screening. The article "*Significance of Anti-HBc Screening in Detecting Occult Hepatitis B Infection in Hemodialysis Patients of Resource-Limited Settings*" addresses an important diagnostic gap. Occult hepatitis B infection may remain undetected by conventional HBsAg testing while retaining clinical significance, particularly among patients awaiting kidney transplantation or those receiving immunosuppressive therapy[8]. Although nucleic acid testing remains the definitive diagnostic method, its limited availability in many developing countries necessitates pragmatic alternatives. The findings support consideration of anti-HBc testing as a complementary screening tool where molecular diagnostics are not routinely accessible, while stimulating further research into cost-effective infection control strategies.

Innovation in diagnostic nephrology is equally represented in this issue through the article "*Salivary Creatinine is Complementary to Serum Creatinine in Patients with Chronic Kidney Disease*". Non-invasive biomarkers have attracted increasing interest because they offer painless, repeatable, and inexpensive alternatives to conventional blood sampling. Although salivary creatinine cannot yet replace serum creatinine for clinical decision-making, accumulating evidence suggests that it may serve as a useful complementary biomarker in selected circumstances, including community screening, telemedicine, and longitudinal monitoring where access to laboratory facilities is limited[9]. Further standardization of assay methodology and validation across different CKD populations will determine its future clinical role.

Collectively, these studies underscore several important themes. First, they emphasize that dialysis quality should be assessed not only through biochemical targets but also through patient-centered outcomes such as functional status, quality of life, and symptom burden. Second, they demonstrate the value of research conducted within local healthcare environments. While international guidelines provide an essential framework for clinical practice, evidence generated from Bangladesh and similar resource-constrained settings is indispensable for adapting recommendations to local realities. Third, they reinforce the importance of multidisciplinary collaboration involving nephrologists, dialysis nurses, dietitians, vascular surgeons, microbiologists, hepatologists, rehabilitation specialists, and laboratory scientists.

The growing burden of CKD demands continued investment in clinically relevant research that addresses practical challenges encountered in everyday nephrology practice. Future investigations should prioritize multicenter collaborations, larger prospective studies, implementation science, and health-economic evaluations to ensure that effective interventions remain affordable and sustainable[10]. Greater incorporation of patient-reported outcome measures, digital health technologies, and artificial intelligence-assisted clinical decision support may further enhance individualized kidney care.

The editors congratulate the authors for contributing meaningful research that addresses important gaps in dialysis care. Their work reflects the expanding research capacity within the region and demonstrates that high-quality clinical investigation can directly inform patient care. It is through such incremental advances—improving nutrition, reducing intradialytic complications, preserving vascular access, strengthening infection surveillance, and developing innovative diagnostics—that nephrology continues to move toward safer, more effective, and more patient-centered care.

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