

# Emerging Need for Pre-Dialysis Nurses to Overcome the Growing Kidney Disease Burden in Pakistan

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## ABSTRACT

According to the Global Burden of Disease, chronic kidney disease (CKD) was Pakistan's eighth most common cause of death in 2017. After having end-stage renal disease, most patients prefer hemodialysis as Kidney Replacement Therapy (KRT) because of the lack of kidney donors. There are specific fears related to hemodialysis therapy, but a multidisciplinary approach is required to remove the concern. Along with this, kidney disease is an irreversible condition; the primary goal of treatment is to delay disease progression. To accomplish this goal, pre-dialysis nurses can intervene in kidney disease stage III to delay the deterioration of kidney function and prevent further complications through health education and strengthening patients' self-care behavior. Employing pre-dialysis nurses in the nephrology clinics will be beneficial to the healthcare system as it will reduce hospital costs by reducing the number of hospital admissions, slow the progression of kidney disease, and, therefore, defer the requirement for dialysis therapy. However, multiple challenges exist to introducing pre-dialysis nurses in the healthcare sector, but through proper planning, these challenges can be overcome, and better health outcomes can be achieved. This position aims to highlight the vital role of pre-dialysis care nurses in the healthcare sector, their responsibilities with supporting arguments, the Chronic Care Model, challenges, and recommendations to overcome those challenges.

**Keywords:** Pre dialysis nurses, renal replacement therapy, dialysis fear.

## INTRODUCTION

The healthcare system cannot stand without the nursing profession as nurses not only provide bedside care but also perform an essential role in disease prevention by implementing practical and effective strategies for lowering the risks associated with chronic illnesses such as kidney failure [1]. Since kidney disease is an irreversible condition, the primary goal of treatment is to delay disease progression. To accomplish this goal, pre-dialysis nurses can intervene in kidney disease stage III to delay the deterioration of kidney function and prevent further complications through health education and strengthening patients' self-care behavior [2]. In this position paper, the role of the pre-dialysis nurse is examined, along with the significance, challenges, and strategies to overcome these challenges in the healthcare system.

Globally, the prevalence of kidney disease is 13.4%, and the most common causes of kidney failure are diabetes mellitus type II and hypertension [3]. After having end-stage renal disease, most patients prefer hemodialysis as Kidney Replacement Therapy (KRT) because of the lack of kidney donors [4, 5]. The patients receiving hemodialysis face not only physical symptoms but also financial hardships. Hemodialysis (HD) costs in low- and middle-income nations ranged from Int\$ 3,424 to Int\$ 42,785, whereas peritoneal dialysis (PD) costs in these same countries ranged from Int\$ 7,974 to Int\$ 47,971 [6]. The cost of in-center hemodialysis in Pakistan,

calculated by Naqvi, was \$4,003.30 per patient [7]. This growing physical and economic burden of kidney disease demands nurses to provide pre-dialysis care [8].

## CURRENT KIDNEY DISEASE SITUATION IN PAKISTAN

According to the Global Burden of Disease study, chronic kidney disease (CKD) was Pakistan's eighth most common cause of death in 2017. In addition, hemodialysis therapy, which is considered a common KRT for CKD management, poses numerous environmental hazards and economic constraints, such as excessive use of underground clean water, electricity, and production of solid waste by hemodialysis procedure. It is also emphasized that a healthcare policy for kidney disease patients must be implemented in the healthcare sector of Pakistan [9]. To overcome the current situation, one suggestion is to find alternatives to hemodialysis therapy, such as delaying kidney function deterioration through secondary prevention at an early stage of kidney failure [10].

Furthermore, a study conducted in a tertiary care hospital in Pakistan to examine the refusal and acceptance rate of hemodialysis by admitted kidney disease patients reported that people have fears related to hemodialysis therapy. In this study, the author proposed that to remove the concern of kidney disease patients associated with KRT, only the individual approach by a nephrologist is not sufficient; instead, a more intensive and innovative multidisciplinary approach is required. Therefore, as members of the nephrology team, pre-dialysis nurses can work to alleviate patients' fears by explaining available treatment options, arranging visits to dialysis

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Received: December 19, 2023; Revised: March 17, 2024; Accepted: March 27, 2024  
DOI: <https://doi.org/10.37184/lnjpc.2707-3521.6.44>

departments, and forming social support groups with other kidney disease patients [11].

A recent cross-sectional study in Pakistan found that people aged 30-39 are more likely to have diabetes mellitus (15.8%) and hypertension (40.2%). As both of these non-communicable diseases are among the leading causes of kidney failure, it is expected that the rise in non-communicable diseases and related complications will place a significant burden on Pakistan's healthcare system [12]. The findings of this study are alarming and highlight the dire need to develop a comprehensive plan by introducing specialized roles of healthcare professionals to overcome future health challenges in Pakistan. Given the country's current burden of kidney disease, it is critical to employ pre-dialysis nurses in nephrology clinics; however, their role and position are still unidentified in Pakistan.

### POSITION STATEMENT

The position favor asserts that employing pre-dialysis nurses with the nephrology team is pivotal to overcoming and preventing hemodialysis and its complications. To support our position, roles, and responsibilities along with supporting argument and Chronic Care Model, significance, challenges/barriers, and strategies/recommendations to overcome are proposed.

### ROLE AND RESPONSIBILITIES OF PRE-DIALYSIS NURSES IN NEPHROLOGY CLINICS

Nurses in Pakistan are not allowed to prescribe medication except few medicines allowed by PN&MC. However, they can make assessment, monitor vital signs, and can educate and counsel patients regarding adherence to drugs, dietary regimens, and dialysis schedule. Pre-dialysis nurses in a nephrology clinic have multiple responsibilities aiming to provide quality care. Their primary duties include:

#### Assessment of Kidney Function

Pre-dialysis nurses track lab results, blood pressure, glucose levels, and other vital signs to determine renal function. They also monitor the patient's weight regularly to check for signs of volume overload, such as edema, and crepitation in the chest, and to coordinate nephrologists for the need to readjust drugs [13].

#### Collaboration with a Multidisciplinary Team

In Nephrology clinics, pre-dialysis nurses coordinate with the healthcare team, such as a nephrologist, vascular surgeon (creation of arteriovenous fistula), dietitian (dietary management), psychiatrist (management of depression), and interventional radiologist [13].

#### Health Literacy

Health education programs led by nurses are found to significantly increase patients' self-efficacy, which improves their quality of life [14]. The pre-dialysis nurse

will educate the patients regarding their disease process and preventive measures [15].

#### Patient Advocacy

A very important role of pre-dialysis nurses is advocating for the patients by respecting their independence and personal values and beliefs. In Pakistan, people hold various myths about hemodialysis therapy, such as that their lives will be restricted, they will develop more complications, and they will die after starting dialysis [11]. So, by understanding these beliefs, the pre-dialysis nurse will counsel them.

#### Monitoring Adherence to the Drug Regimen

Pre-dialysis nurses monitor patients' progress throughout their treatment plan and ensure that patients follow their medication regimens to achieve optimal renal function because the patient's adherence to drugs is essential in slowing the progression of kidney function deterioration [16].

#### Family Counseling Regarding Disease and Management

In Pakistan, the refusal rate of hemodialysis therapy is more than 50 %, and studies have suggested that non-compliance to KRT results in poor health outcomes [11, 17]. The pre-dialysis nurses will counsel patients and their families about the available KRT.

#### Support to Kidney Patients on the Palliative Care Pathway

Pre-dialysis nurses can provide psychological support and symptom management to elderly patients who do not want to go for KRT and choose a palliative care pathway [18].

#### Chronic Care Model and Pre-dialysis Nursing Care

Pre-dialysis care focuses primarily on providing holistic care to kidney disease patients from their diagnosis till the start of dialysis therapy [19]. Accordingly, one of the cutting-edge strategies used by nurses in the early detection and treatment of chronic kidney disease (CKD) in primary care settings is Wagner's Chronic Care Model [20]. It is a multilevel framework that offers a comprehensive organizational approach for determining factors that contribute to better outcomes for people with chronic diseases. This model comprises six components: community, self-management support, organization of healthcare, design of the delivery system, decision support, and computer information systems, which support positive interactions between healthcare professionals and patients. Pre-dialysis nurses perform an intermediary role between the community and healthcare organizations [20].

#### Significance of Employing Pre-dialysis Nurses in Nephrology Clinics

Patients receiving early nephrology nursing care will have improved health outcomes [15]. It will lead to decreased mortality, anemia, and other CKD complications [21].

Pre-dialysis nurses will help enhance the quality of life for patients with CKD by addressing their physical and psychosocial needs as well as by improving their nutritional status during the pre-dialysis phase [22].

Furthermore, the National Institute of Clinical Excellence's 2023 guidelines encourage patients' involvement in shared decision-making. Keeping this in view, the pre-dialysis nurse will collaborate with patients to deliver patient-centered care by focusing on their needs, values, and cultural beliefs and ensuring that patient values are incorporated into all clinical decisions [23]. This patient-centered care will also enhance patient satisfaction [24].

The idea of employing pre-dialysis nurses in the nephrology clinics seems to be beneficial to the healthcare system as it will reduce hospital costs by reducing the number of hospital admissions, slow the progression of kidney disease, and, therefore, defer the requirement for dialysis therapy [8]. Moreover, the pre-dialysis nurses will be an addition to the pool of the nephrology team, and the lack of access to the nephrologist can be tackled. It will lead to the introduction of new nursing roles in the healthcare sector [25].

### **Potential Challenges for Employing Pre-Dialysis Nurses in Nephrology Clinics**

#### ***Resistance from other Healthcare Professionals***

Pre-dialysis nurses may encounter resistance from other medical professionals in Pakistani nephrology clinics because these medical professionals might believe that they are being replaced or that their position is being taken over [26].

#### ***Financial Resource Constraints***

Obtaining funding from government or non-governmental organizations will initially be a challenge, as there is little emphasis on kidney disease management in low-middle-income countries. So, the government will be reluctant to allocate funds [27].

#### ***Education and Training***

Specialized training will be required to prepare nurses for the new role, which may face difficulties in gaining approval from the government. Moreover, many nursing schools may be unprepared to begin this specialized training due to the non-availability of resources, specialized faculty, and unskilled staff [28].

#### ***Staffing Shortages***

The nursing profession is already facing a shortage of trained nurses as a large number of nurses leave the country for better opportunities, making it difficult to add a new role to Pakistan's healthcare team [29].

#### ***Integration with Existing Care Team***

While implementing a new nursing role, it may be necessary to modify current process flows and communication mechanisms to facilitate the integration of pre-dialysis nurses with nephrology care teams.

### ***Lack of Readiness to Seek Pre-Dialysis Care***

Patients might be reluctant to see a new healthcare provider because, in Pakistani culture, people are not aware of pre-dialysis care, so they may be hesitant to seek care because they do not believe it is important for their kidney health [30].

### **PROPOSED RECOMMENDATIONS**

To overcome the challenges mentioned above, the following recommendations are proposed:

- Set up specific rules and regulations for the certification and area of responsibility of pre-dialysis nurses, ensuring they adhere to the Pakistan Nursing and Midwifery Council (PN&MC) Act and other relevant legislation.
- Approval from the health ministry, finance ministry, and PN&MC for employing pre-dialysis nurses in nephrology clinics as a pilot project. In the pilot phase, pre-dialysis nurses should be employed in hospitals, established particularly for kidney disease management in different cities of Pakistan, such as Lahore, Rawalpindi, and Karachi.
- After the pilot project is successfully completed, nurse-led nephrology clinics should be established in the country's tertiary care hospitals. These clinics will be run by pre-dialysis nurses under the direction of nephrologists and offer complete care to kidney disease patients.
- A referral process should be established in the primary and secondary level hospitals so that healthcare providers can refer patients to the pre-dialysis nurses. This process could be a simple referral form or an electronic system that allows for easy referral.
- Initially, the nurses who have already earned the post-basic specialization in Nephro-Urology and are registered by the PN&MC can work as pre-dialysis nurses. However, in the future, Advanced Nurse Practitioners can be trained and licensed by PN&MC to run nurse-led nephrology clinics.
- Continuous feedback from patients, families, and other healthcare providers should be provided to pre-dialysis nurses for evaluation purposes. It should also be ensured that they adhere to evidence-based practices. This regular assessment will aid in identifying areas for improvement and directing future pre-dialysis nurse advancement.
- To deal with the challenge of resource constraints, the health ministry can allocate an annual budget to nephrology clinics led by nurses for secondary disease prevention.

### **CONCLUSION**

In brief, due to the growing physical and financial burden of kidney diseases in Pakistan, there is an emerging need to introduce the role of pre-dialysis nurses in nephrology

clinics to prevent complications. Multiple challenges exist to introducing pre-dialysis nurses in the healthcare sector, but through proper planning, these challenges can be overcome, and better health outcomes can be achieved.

## FUNDING

None.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## ACKNOWLEDGEMENTS

The authors would like to thank Dr. Rafat Jan and Dr. Saleema Gulzar, School of Nursing and Midwifery at the Aga Khan University, Pakistan, respectively, for their technical assistance and for providing overall guidance during the writing of this paper.

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