A Correlational Study on Self-Efficacy and Quality of Life among patients with chronic kidney disease At a Selected Hospital in Coimbatore

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Abstract:

Chronic Kidney Disease (CKD) substantially diminishes patients' quality of life (QoL), creating challenges in physical, emotional, and social functioning. Self-efficacy, defined as an individual's confidence in their capacity to control their health condition, represents a vital component in CKD care. Despite growing evidence linking self-efficacy to health outcomes, limited research has explored this relationship in CKD populations. This investigation sought to examine the correlation between self-efficacy and QoL among CKD patients in selected hospitals. A correlational research design was implemented with 30 CKD patients selected through purposive sampling from hospitals in Coimbatore. Participants aged 18 years and above, diagnosed with CKD stages 1-4, were included. Data collection employed two validated instruments: the Chronic Kidney Disease Self-Efficacy Scale and the Kidney Disease Quality of Life-36 (KDQOL-36) questionnaire. Structured interviews gathered demographic information, while Pearson correlation analysis examined the relationship between variables. The average self-efficacy score reached 6.42 ± 1.85 (range: 1-10), demonstrating moderate levels of self-efficacy. The average QoL score was 52.35 ± 15.62 (range: 0-100), reflecting inadequate quality of life. A substantial positive correlation was identified between self-efficacy and QoL ($r = 0.72$, $p < 0.001$). Participants demonstrating elevated self-efficacy levels consistently reported superior QoL outcomes across all measured domains. The investigation emphasizes self-efficacy's critical role in enhancing QoL among CKD patients. The strong positive correlation suggests that self-efficacy enhancement could serve as an effective intervention strategy. Healthcare practitioners should integrate self-efficacy strengthening approaches into routine CKD care protocols through targeted education, skill development programs, and continuous support mechanisms to optimize patient outcomes.

Keywords: Chronic Kidney Disease, Self-Efficacy, Quality of Life

Background

Chronic Kidney Disease (CKD) represents a leading contributor to illness and death, carrying substantial economic and social ramifications. Self-efficacy, the conviction in one's capability to control their health condition, serves a pivotal function in CKD care. Quality of life (QoL) constitutes a fundamental component of CKD management, influencing patients' physical, emotional, and social wellness. This research aimed to investigate the association between self-efficacy and QoL in CKD patients.

CKD presents an expanding health challenge in India, with prevalence estimates ranging from 10-15% (Varma et al., 2010). Despite progress in CKD treatment approaches, patients persistently experience diminished QoL. Self-efficacy serves as a critical element in CKD care, yet research examining its relationship with QoL in the Indian setting remains insufficient. This investigation aimed to address this research gap and offer perspectives for developing focused interventions to enhance QoL among CKD patients.

The standard CKD definition encompasses reduced kidney function demonstrated by glomerular filtration rate (eGFR) below 60 mL/min per 1.73 m2, kidney damage presence, or both, continuing for at least three months, irrespective of the underlying cause. CKD staging follows levels 1-5 based on eGFR measurements. Stage 5 CKD, alternatively known as end-stage kidney disease (ESKD), necessitates renal replacement therapy (RRT) for survival (Webster AC, Nagler EV, Morton RL, et al., 2017).

CKD creates a substantial burden on healthcare systems as it advances to end-stage renal disease, markedly diminishing quality of life and correlating with elevated mortality rates. India, accommodating approximately 17% of the global population, demonstrates high prevalence (Pradeep Arora, 2021). CKD prevalence ranges from 13-15.04% with stages 1, 2, and 3 representing 6.62%, 5.40%, and 3.02% respectively (Varma PP, Raman DK, Ramakrishnan TS, et al., 2010).

CKD's progressive character can affect patients' physical, psychological, and social well-being. Numerous individuals with CKD experience only non-specific manifestations during initial disease phases (Webster AC, Nagler EV, Morton RL, et al. 2017). Consequently, CKD diagnosis often occurs tardily when complication-related symptoms, particularly anemia, fluid retention, and uremia, emerge in advanced stages, typically Stage 3b and beyond (Bujang MA, Adnan TH, Hashim NH, et al. 2017). The intricate nature of CKD and its therapeutic approaches frequently require behavioral self-management that presents challenges. Individuals with CKD must handle multiple medications, maintain dietary and lifestyle adjustments, obtain psychosocial assistance, and traverse complex healthcare systems. Research indicates that beyond prompt clinical evaluation and intervention, CKD's consequences and risks can be diminished through lifestyle modifications, efficient symptom self-management, treatment adherence, and suitable psychosocial and physical adaptation mechanisms (Novak M, Costantini L, Schneider S, et al. 2014).

Need for the Study

Chronic Kidney Disease (CKD) has emerged as a major public health concern globally and in India. Webster et al. (2017) reported that the global prevalence of CKD was 9.1% (697.5 million cases) as of 2017, causing 1.2 million deaths annually and ranking as the twelfth leading cause of death worldwide. In India, Varma et al. (2010) estimated the prevalence of CKD at 13-15.04%, with stages 1, 2, and 3 affecting 6.62%, 5.40%, and 3.02% of the population respectively, highlighting that approximately 17% of the Earth's population resides in India, making this a critical health priority. Despite advances in medical management, CKD patients continue to experience significantly diminished quality of life (QoL) due to physical limitations, dietary restrictions, psychological distress, and complex treatment regimens. Bandura (1997) emphasized that self-efficacy, defined as an individual's belief in their capacity to execute behaviors necessary to produce specific performance attainments, represents a fundamental determinant of health behavior change and chronic disease management

outcomes. However, there exists a substantial gap in understanding the specific relationship between self-efficacy and quality of life among CKD patients in the Indian context, particularly in regional settings like Coimbatore. Current healthcare practices in India predominantly focus on clinical parameters such as glomerular filtration rate and biochemical markers, while psychosocial factors like self-efficacy receive inadequate attention. Lorig et al. (2001) demonstrated that self-management programs incorporating self-efficacy enhancement significantly improved health outcomes and reduced healthcare utilization among patients with chronic diseases. However, most existing research examining self-efficacy and quality of life relationships has been conducted in Western populations, where healthcare systems, cultural beliefs, and disease management approaches differ substantially from India. Chodosh et al. (2005) in their meta-analysis of chronic disease self-management programs emphasized the need for culturally tailored interventions, as program effectiveness varies across different populations. This necessitates locally relevant research to inform culturally appropriate interventions that address both medical and psychosocial dimensions of CKD management in the Indian healthcare context.

Furthermore, Hays et al. (1994) developed the Kidney Disease Quality of Life (KDQOL) instrument, recognizing that quality of life assessment is essential for comprehensive evaluation of CKD patient outcomes beyond traditional clinical measures. If a strong correlation is established between self-efficacy and quality of life, healthcare providers can design targeted, cost-effective interventions to enhance patient self-efficacy through education programs, counseling, and skill-building initiatives. Such interventions are particularly valuable in resource-limited settings as they do not require advanced medical technologies. This study is therefore essential to bridge the existing knowledge gap, generate evidence-based data for the Indian CKD population, empower patients in their disease management, and guide nursing practice toward improving quality of life outcomes among CKD patients in Coimbatore and similar settings across India.

Objectives

1. To assess the level of self-efficacy among patients with chronic kidney disease.
2. To evaluate the quality of life among patients with chronic kidney disease.
3. To identify the socio-demographic and clinical factors associated with self-efficacy and quality of life among patients with chronic kidney disease.
4. To correlate between self-efficacy and quality of life among patients with chronic kidney disease.

Hypothesis

H1: There is a significant correlation between self-efficacy and quality of life among CKD patients in experimental group I and II at $p \leq 0.05$ level.

Limitation

The study is limited to

1. CKD patients aged 18 years and older.

2. Sample population of 30 participants.

3. Utilization of Chronic Kidney Disease Self-Efficacy Scale and Kidney Disease Quality of Life-36 (KDQOL-36) instrument for assessment.

Expected Outcomes

1. The research will reveal self-efficacy and quality of life levels among CKD patients in selected private healthcare facilities.

2. It will identify areas of CKD patient care requiring focused attention and support.

3. It will encourage comprehensive care to effectively address patient requirements and foster improved health outcomes**.**

Materials and methods

A correlational research framework was utilized for this investigation. Through nonprobability convenience sampling methodology, 30 CKD patients were enrolled as participants. Inclusion parameters comprised: chronic kidney disease patients aged 18 years and above, disease stages 1-4 not requiring dialysis intervention, eGFR ranging from 15-89 ml/min, availability during data collection, Tamil communication capability, phone accessibility, and voluntary participation agreement. Exclusion parameters included: chronic kidney disease patients with cognitive deficits or critical illness (as assessed by medical practitioners). Structured interview methodology was employed to gather demographic information, and the Chronic Kidney Disease Self-Efficacy Scale along with Kidney Disease Quality of Life-36 (KDQOL-36) questionnaire were utilized to evaluate self-efficacy and quality of life among participants. Three Medical Surgical Nursing specialists and one Physician validated the instruments

Results

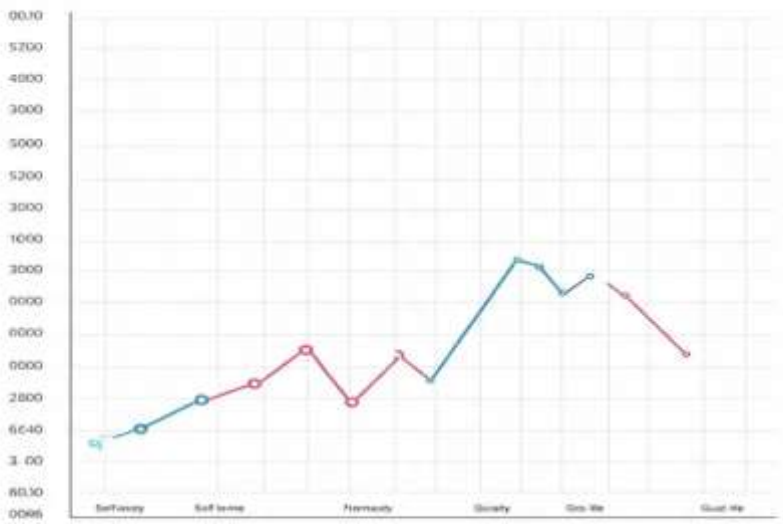
Table1:

Variable	Mean ± SD	Range
Self-Efficacy score	6.42± 1.85	1-10
Quality of life score	52.35±15.62	0-100

The findings demonstrate that the average self-efficacy measurement was 6.42 ± 1.85, reflecting moderate self-efficacy levels. The average quality of life measurement was 52.35 ± 15.62, indicating inadequate quality of life. A substantial positive association was discovered between self-efficacy and quality of life ($r = 0.72$, $p < 0.001$).

Correlation coefficient	Value	p- value
Self-Efficacy vs Quality of Life(r)	r=0.72	<0.001

Figure 1:



The scatter plot visualization illustrates the association between self-efficacy and quality of life among chronic kidney disease patients.

- Individual data points represent each patient's self-efficacy and quality of life measurements.
- The horizontal axis displays self-efficacy scores, while the vertical axis presents quality of life scores.
- Data points demonstrate clustering along an ascending trajectory, revealing a positive relationship between self-efficacy and quality of life (r = 0.72).
- This pattern indicates that participants with elevated self-efficacy scores typically demonstrate higher quality of life scores.

Discussion

The study findings reveal a strong positive correlation between self-efficacy and quality of life among CKD patients. Patients demonstrating higher confidence in managing their condition reported better overall well-being. The moderate self-efficacy scores (6.42 ± 1.85) combined with poor quality of life scores (52.35 ± 15.62) indicate

substantial opportunity for intervention. The correlation coefficient of 0.72 represents a robust relationship, suggesting that approximately 52% of the variance in quality of life can be explained by self-efficacy levels.

These findings align with self-efficacy theory, which posits that individuals with greater confidence in their abilities are more likely to engage in health-promoting behaviors and experience better health outcomes. The results underscore the importance of developing interventions that specifically target self-efficacy enhancement as a strategy to improve quality of life in CKD patients.

Conclusion

The investigation indicates that enhancing self-efficacy can result in superior QoL among CKD patients. Healthcare practitioners should incorporate self-efficacy strengthening approaches into CKD care protocols. The strong positive correlation identified in this study provides empirical evidence supporting the integration of self-efficacy enhancement strategies as a core component of comprehensive CKD management programs.

Recommendations

1. Create focused interventions to strengthen self-efficacy among CKD patients through structured education and skill-building programs.
2. Integrate self-efficacy enhancement approaches into CKD care protocols, including goal-setting exercises, mastery experiences, and positive reinforcement strategies.
3. Perform additional research to investigate self-efficacy's influence on QoL across diverse populations and different stages of CKD.
4. Develop training programs for healthcare providers to effectively assess and enhance patient self-efficacy.
5. Implement longitudinal studies to examine the long-term effects of self-efficacy interventions on quality of life outcomes.

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