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HEALTH-RELATED QUALITY OF LIFE AFTER KIDNEY TRANSPLANTATION: CURRENT EVIDENCE AND CLINICAL IMPLICATIONS

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Abstract

Background: Kidney transplantation is the preferred treatment for end-stage renal disease, offering survival benefits over dialysis. However, long-term outcomes increasingly focus on health-related quality of life (HRQoL).

Objective: To analyze contemporary evidence on HRQoL after kidney transplantation and identify key determinants affecting patient outcomes.

Methods: Narrative review of recent studies (2020–2026) addressing HRQoL, psychological status, and clinical determinants in kidney transplant recipients.

Results: Kidney transplantation significantly improves HRQoL compared to dialysis, particularly in physical and social domains. However, HRQoL remains lower than in the general population. Immunosuppressive therapy, psychological disorders, and comorbidities are major limiting factors.

Conclusion: HRQoL should be considered a core outcome in transplant medicine, requiring multidisciplinary management and individualized therapeutic strategies.

Keywords: Kidney transplantation, quality of life, HRQoL, immunosuppression, renal failure



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Introduction

Kidney transplantation is recognized as the gold standard treatment for patients with end-stage renal disease (ESRD), significantly improving survival rates and reducing morbidity compared to dialysis [1]. In recent years, clinical priorities have shifted from graft survival alone to broader patient-centered outcomes, particularly health-related quality of life (HRQoL) [2].

HRQoL encompasses physical, psychological, and social domains of health, reflecting the patient's subjective perception of well-being. Despite advances in surgical techniques and immunosuppressive therapy, post-transplant HRQoL remains heterogeneous and influenced by multiple interacting factors.

Materials and Methods

This study represents a narrative review of contemporary literature published between 2020 and 2026. Sources were identified through databases including PubMed, Scopus, and ScienceDirect using keywords such as “kidney transplantation”, “quality of life”, and “HRQoL”. Priority was given to systematic reviews, cohort studies, and clinical guidelines.

Results

Improvement of HRQoL After Transplantation

Multiple studies demonstrate that kidney transplantation leads to significant improvements in HRQoL compared to dialysis-dependent patients [3].

Improvements are observed in:

- physical functioning
- energy levels
- sleep quality
- social integration



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Patients also experience greater independence due to the elimination of dialysis-related constraints. Employment rates increase, and many patients regain the ability to participate in normal daily activities [3].

Persistent Limitations in HRQoL

Despite these improvements, HRQoL in transplant recipients remains lower than in healthy individuals [2]. One of the primary contributing factors is long-term immunosuppressive therapy.

Adverse effects include:

- metabolic complications
- cardiovascular risk
- increased susceptibility to infections

In addition, cosmetic side effects and medication burden may negatively impact self-perception and adherence.

A recent study reported that up to 40% of transplant recipients experience suboptimal HRQoL, particularly in psychological and emotional domains [4].

Psychological and Psychosocial Determinants

Psychological disorders play a crucial role in shaping HRQoL outcomes. Anxiety and depression are commonly observed among transplant recipients, with reported prevalence rates of approximately 20–30% for anxiety and 10–20% for depression [5].

These conditions are associated with:

- reduced physical functioning
- lower treatment adherence
- poorer graft outcomes



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Social support has been identified as a protective factor, significantly improving HRQoL scores and overall adaptation.

Determinants of Quality of Life

HRQoL is influenced by a complex interaction of factors:

Clinical factors:

- graft function
- hemoglobin levels
- presence of comorbidities

Behavioral factors:

- adherence to immunosuppressive therapy
- physical activity

Psychosocial factors:

- employment status
- education level
- family support

Studies emphasize that no single factor determines HRQoL; rather, it is the combined effect of these variables [2].

Adaptation After Transplantation

Kidney transplantation marks a transition to a new chronic condition rather than a complete recovery. Patients must adapt to lifelong therapy and regular medical monitoring.



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Young patients may face additional challenges, including:

- emotional instability
- difficulties with adherence
- social reintegration issues

However, with adequate support, most patients achieve gradual psychological and social adaptation [6].

Discussion

The findings confirm that kidney transplantation significantly improves HRQoL compared to dialysis, supporting its role as the optimal therapeutic strategy for ESRD. However, the persistence of reduced HRQoL compared to the general population highlights unmet clinical needs.

Immunosuppressive therapy remains a double-edged sword: while essential for graft survival, it contributes to long-term morbidity. Similarly, psychological factors are increasingly recognized as critical determinants of outcomes.

Modern transplant care should therefore incorporate:

- individualized immunosuppressive regimens
- routine psychological screening
- multidisciplinary management

The integration of HRQoL assessment into routine clinical practice is essential for optimizing long-term outcomes.

Conclusion

Kidney transplantation leads to substantial improvements in HRQoL but does not fully restore it to normal levels. Long-term outcomes are influenced by clinical, psychological, and social factors.



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Future strategies should focus on:

- personalized treatment approaches
- reduction of immunosuppressive toxicity
- integration of psychosocial care

HRQoL should be considered a central endpoint in transplant medicine alongside graft survival.

References (Vancouver style)

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