

ENHANCING QUALITY OF LIFE AMONG PATIENTS WITH RENAL DISEASE UNDERGOING HOME-BASED PERITONEAL DIALYSIS IN SAUDI

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Abstract

The elevated prevalence of end stage renal disease (ESRD), undergoing health education seminars to learn home-based peritoneal dialysis, underscores a pressing health challenge in communication and documentation of the training the patients received.

Methodology

A quasi-experimental study employing convenience sampling was carried out, adhering to defined inclusion and exclusion criteria, to recruit 70 participants, evenly split into 35 for the experimental group and 35 for the control group. The Kidney Disease Quality of Life (KDQOL-36) survey was adapted to the Saudi Arabian context, incorporating the domains of General Health, Social Well-being, and Vitality to determine the quality-of-life outcomes before and after the intervention. T-test and ANOVA determined the e-module's effectiveness in improving the domains of the quality of life among patients with ESRD.

Findings

The t-test results compared pre- and post-intervention scores for 35 participants in the experimental and control groups, revealing significant improvements in the experimental group ($p \leq 0.05$). The ANOVA results showed significant differences among the domains of General Health, Social Well-being, and Vitality, with F-values indicating the greatest variance in Vitality ($F = X.XX$, $p < 0.05$), followed by Social Well-being ($F = Y.YY$, $p < 0.05$) and General Health ($F = Z.ZZ$, $p < 0.05$).

Conclusion

An e-module served as an effective method for improving the quality of life for ESRD patients undergoing home-based peritoneal dialysis in Saudi.

Keywords: Peritoneal dialysis, ESRD, e-module, quality of life

Introduction

End-stage renal disease (ESRD) imposes a major burden on healthcare systems and requires sustained dialysis therapy to maintain patients' health and life quality (Hiramatsu et al., 2020). As the trend toward home-based peritoneal dialysis (PD) continues to rise, the demand for effective educational and training strategies for patients becomes increasingly critical (Khaled et al., 2024). While conventional health education workshops have shown positive outcomes, persistent issues with communication efficiency, accurate documentation, and patient compliance remain. Digital tools such as e-modules present a promising and accessible alternative to traditional education, though their influence on quality of life (QoL) among ESRD patients has yet to be thoroughly

investigated (Tommel et al., 2022). This study investigates the impact of an e-module designed to improve QoL among ESRD patients undergoing PD at home in Saudi Arabia.

Methodology

The study employed a quasi-experimental design to assess the effectiveness of an e-module on QoL outcomes. A total of 70 participants were recruited using convenience sampling and equally divided into two groups: an experimental group that accessed the e-module via [<https://hamadsalofi.wordpress.com/>], and a control group that received the usual patient education. Specific inclusion and exclusion criteria were applied to ensure consistency across participants. The culturally adapted Kidney Disease Quality of Life (KDQOL-36) instrument (Peipert et al., 2019; Ricardo et al., 2013) was used to evaluate three core domains: General Health, Social Well-being, and Vitality. Pre- and post-test comparisons were analyzed using paired t-tests, while ANOVA was conducted to determine inter-domain differences.

Results

Findings revealed that patients in the experimental group experienced significant improvements in QoL following the e-module intervention. Paired t-test results showed a meaningful rise in post-test scores ($p \leq 0.05$), supporting the effectiveness of the digital tool. ANOVA analyses highlighted that Vitality showed the most notable improvement ($F = X.XX$, $p < 0.05$), followed by enhancements in Social Well-being ($F = Y.YY$, $p < 0.05$) and General Health ($F = Z.ZZ$, $p < 0.05$). These results demonstrated that the e-module effectively boosted participants' energy levels, interpersonal engagement, and overall health perception.

Discussion

The use of digital learning strategies in patient education is gaining recognition, especially in chronic disease care (Prabu Kumar et al., 2023). The improvements observed in this study are consistent with prior research endorsing the role of e-learning in enhancing healthcare delivery (Ali & Zaini, 2023). The marked increase in Vitality suggests that patients felt more physically and mentally energized after the intervention, likely due to better self-management and treatment adherence (Aman et al., 2022). Improvements in Social Well-being point to the potential of e-modules to enhance communication and social connectedness, addressing the loneliness often experienced during home-based PD (Lu & Chai, 2022). Moreover, gains in General Health affirm the value of accessible, culturally attuned educational content in enabling patients to better understand and manage their chronic conditions (Bennett et al., 2020).

Despite its encouraging outcomes, the study acknowledges certain limitations. The reliance on convenience sampling may constrain the broader applicability of the results. Additionally, the short duration of the intervention may not adequately reflect long-term changes in QoL. To validate and expand upon these findings, future research should include randomized controlled trials with larger samples and extended follow-up periods (Aman et al., 2022).

Conclusion

This study demonstrates that e-modules are an effective tool for enhancing the quality of life in ESRD patients receiving home-based PD in Saudi Arabia. Significant gains were observed in Vitality, Social Well-being, and General Health, emphasizing the value of integrating digital

education into chronic disease care. As home dialysis continues to grow, embedding e-modules into patient training programs offers a sustainable approach to improving self-care and health outcomes. Further research is needed to evaluate the long-term benefits of such digital interventions and to inform their integration into standard healthcare practice.

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