

Impact of Intradialytic Leg Exercises on Pain, Fatigue, Sense of Well-being, and Sleep Quality among Patients Undergoing Haemodialysis: A Feasibility Study

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ABSTRACT

Introduction: Chronic Kidney Disease (CKD) is a growing global health concern, and patients undergoing haemodialysis commonly experience pain, fatigue, reduced sense of well-being, and poor sleep quality, adversely affecting their quality of life. Intradialytic exercises are considered a simple and cost-effective intervention to manage these symptoms.

Aim: To assess the feasibility and effectiveness of intradialytic leg exercises on pain, fatigue, sense of well-being, and sleep quality among patients undergoing haemodialysis.

Materials and Methods: A quantitative approach with a quasi-experimental, non-equivalent control group pretest–posttest design was used for the feasibility study. A total of 10 participants were selected through purposive sampling, with five in the experimental group and five in the comparison group. The experimental group performed intradialytic leg exercises during the second hour of dialysis for 4–6 times over 2 consecutive weeks, while the comparison group received routine care. Data were collected before and after the intervention using standardised and non-standardised tools. Descriptive and inferential statistics, including mean, standard deviation, paired t-test, independent t-test, chi-square test, and correlation coefficient, were used for analysis. Based on this study

findings, the estimated sample size for the final study was 85 participants, including an anticipated 10% attrition rate.

Results: Baseline findings showed moderate to high levels of pain 6.80 ± 0.837 and fatigue 7.60 ± 0.548 . Post-test results revealed a reduction in pain and fatigue scores and improvement in sense of well-being and sleep quality in the experimental group. Paired t-test analysis indicated improvement in the experimental group (pain: $t = -2.31$; fatigue: $t = -2.12$), while independent t-test comparison showed better outcomes than the comparison group, though statistical significance was limited due to small sample size. Correlation analysis revealed a negative relationship between pain and sleep quality ($r = -0.695$) and a positive relationship between fatigue and sense of well-being ($r = 0.825$).

Conclusion: The intradialytic leg exercises feasible, safe and easy to administer during hemodialysis and showed a significant improvement in decreasing pain, fatigue and improving sense of well-being and sleep quality among patients undergoing hemodialysis. It also provided valuable insights for refining the methodology for the main study.

Keywords: Chronic kidney disease, Fatigue, Hemodialysis patients, Intradialytic leg exercise, Pain, Quasi experimental, Sleep quality.

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