



Physical Activity During Haemodialysis is Associated With Improved Functional Capacity and Reduced Depression: A 15-Month Study From Two Dialysis Centres

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Background and Aim. Patients with chronic kidney disease (CKD) undergoing haemodialysis often experience reduced functional capacity and increased depressive symptoms. Intradialytic physical activity has been proposed as a feasible strategy to improve physical and psychological outcomes. The objective of this study was to evaluate the impact of a supervised physical activity programme during haemodialysis on functional performance and depression levels in CKD patients.

Methods. A supervised intradialytic exercise programme was initiated in 2018 at the Šilainiai Diaverum Clinic and later extended in 2022 to the Vilnius Diaverum Clinic. Of 72 eligible patients, 65 participated and were assessed for 15 months. Functional capacity was evaluated using the 6-Minute Walk Test (6MWT), Sit-to-Stand Test, and Timed Up and Go (TUG) Test. Depression was measured using the Beck Depression Inventory (BDI). Participants were categorised into low-activity (<75% attendance) and high-activity (>75% attendance) groups. Statistical analysis was performed using SPSS v24.

Results. The median age of participants was 68.3 years, and median dialysis duration was 39 months. The high-activity group demonstrated significant improvements after 15 months: 6MWT increased from 372 m to 455 m ($p = 0.001$), Sit-to-Stand repetitions from 5.5 to 7.5 ($p = 0.002$), and TUG time decreased from 11.8 s to 9.2 s ($p = 0.001$). No significant changes were observed in the low-activity group. The high-activity group also reported lower BDI scores. The Comorbidity Index was significantly lower in the high-activity group ($p = 0.041$).

Conclusions. Engagement in intradialytic physical activity is associated with improved functional capacity and better mental health outcomes in haemodialysis patients. These findings support the integration of supervised exercise programmes into routine dialysis care and warrant further controlled studies.

Keywords: Haemodialysis; chronic kidney disease; intradialytic exercise; functional capacity; depression

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Informed Consent Statement: This study was approved by the Ethics Committee of Lithuanian Sports University (MNL-KIN (M)-2026-875, dated 24 03 2026). All participants provided written informed consent prior to participation. The study was conducted in accordance with the Declaration of Helsinki.

