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FEAR OF FALLING, PHYSICAL FUNCTION AND QUALITY OF LIFE IN PATIENTS ON HEMODIALYSIS

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Background: Patients with chronic kidney disease on hemodialysis have physical function impairment, which, added to the effects of the dialysis process, contributes to an increase in the risk of falls in these patients. The history of falls is associated with fear of falling in hemodialysis patients, but its relationship with physical function and quality of life requires investigation.
Objectives: To compare physical function and quality of hemodialysis patients with normal and high fear of falling
Methods: A cross-sectional study was carried out with patients aged 18 years or older, with chronic kidney disease and on HD for at least three months. Patients unable to perform the assessments, who had psychiatric impairments and severe and/or unstable comorbidity were excluded. Fear of falling was assessed using the Falls Efficacy Scale-International, whose score was used to classify patients into normal (<25) and higher (≥ 25) fear of falling groups. Physical function was assessed by muscle strength of upper limb (hand grip - HG) and lower limbs (5 repetitions sit and stand test - STS5), walking speed (4.6 meters), functional mobility (Timed up and Go - TUG) and dynamic postural balance (Mini Balance Evaluation Systems Test - Mini-BESTest). In addition to the physical activity level questionnaires (Human Activity Profile - HAP) and quality of life (36-Item Short Form Health Survey-SF-36, by physical and mental summary components). Data normality was verified using the Shapiro-Wilk test. Comparisons between groups were performed using the Student's t-test or Mann-Whitney test. The significance level was $p<0.05$.
Results: A total of 112 patients (58.7±12.9 years; 56.3% male) were evaluated, of which 55.4% were classified as normal and 44.6% a higher fear of falling. The higher fear of falling group performed worse on the HG[24.0(12.0) vs. 30.0(18.0) kilograms strength; $p<0.001$)], STS5 [14.6(5.3) vs. 11.5(5.5) seconds; p=0.002] tests, gait speed (1.2±0.2 vs. 1.4±0.3 meters/second; p=0.004), TUG [8.8 (2.4) vs. 7.8(2.8) seconds; p=0.009], and Mini-BESTest [21.0(3.0) vs. 23.0(5.0); p=0.026] compared to the normal fear of falling group. Furthermore, the same group showed worse scores on the HAP (52.0±14.7 vs. 60.7±12.6; p=0.001) and physical (39.3±8.5 vs. 45.9 ±8.9; $p<0.001$) and mental [28.5(23.7) vs. 41.9(29.4); p=0.004] summary components of the SF-36.
Conclusion: Patients with higher fear of falling had worse performance in physical function, lower level of physical activity and greater impairment of quality of life compared to those with normal fear of falling.
Implications: Interventions that reduce the fear of falling can contribute to improving physical function, increasing the level of physical activity, and reducing the impairment of the quality of life of patients on hemodialysis.
Keywords: Renal Dialysis, Fear, Accidental Falls

Conflict of interest: The authors declare no conflict of interest.
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MUSCLE STRENGTH ASSESSMENT TOOLS FOR HOSPITALIZED OLDER ADULTS

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Background: Muscle weakness associated with hospitalization is known to be a significant predictor of functional decline in older adults hospitalized for acute conditions. Previous studies have shown that physical and functional decline associated with hospitalization in older adults considerably lengthened hospital stays and increased post-discharge caregiver burden, risk of disability and death and medical expenses. The most widely used muscle strength assessments in hospital settings are handgrip dynamometry and the Medical Research Council (MRC) scale. However, the MRC score is time-consuming to obtain in hospitalized patients and requires adequate training. As such, in hospital settings handgrip dynamometry is noteworthy for its consistent measurements, short application time, simplicity and objectivity in application and scoring and ability to identify overall muscle strength.
Objective: Investigate the association and agreement between handgrip dynamometry measures and the MRC test at admission in hospitalized older adults.
Methods: A methodological (cross-sectional) study with 148 older adults hospitalized in a public hospital in the Federal District, Brazil. Data on age, sex, body mass index (BMI) and engagement in regular physical exercise were collected for sample characterization. The main variable was muscle strength, measured by handgrip dynamometry and the Medical Research Council (MRC) scale. The data were analyzed using descriptive statistics, Spearman's correlation and the Kappa statistic (α=5%).
Results: of the older adults included in the study, 41.9% were women, 79.7% were sedentary, aged 60 to 101 years (median = 70 years), taking 5.14 continuous use drugs, with an average BMI of 26.22 Kg/m^2. The average handgrip strength was 23.83 Kgf (SD=8.45) and the MRC score was 54.94 points (SD=5.709). Muscle weakness was identified in 60.8% of participants via handgrip dynamometry and in 10.8% via the MRC. There was a moderate correlation (r=0.646; $p<0.001$) between handgrip strength and MRC score and weak agreement (K=0.122; p=0.004) between the muscle weakness diagnoses of the two instruments.
Conclusion: Unlike the muscle weakness diagnoses obtained by handgrip strength assessment, a minority of participants exhibited muscle weakness when evaluated by the MRC scale, displaying weak agreement between the measures investigated despite the moderate correlation.
Implications: These results suggesting that handgrip strength and MRC be used in sequence, with dynamometry as a rapid initial