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Validity of Self-Report and Objective Fatigue Measures in Hemodialysis

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Background: Conventionally, fatigue has been measured using unidimensional, self-report measures with cross-sectional study designs in individuals on Hemodialysis (HD).

Purpose: The purpose of this paper is to validate the use of three sparsely used fatigue assessment measures in participants on HD.

Methods: A within-subjects' pre- post-test design was utilized. The Piper Fatigue Scale (PFS)-12, Patient-Reported Outcomes Measurement Information Systems (PROMIS)-Fatigue, and the six-minute walk test (6MWT) were used for fatigue assessment. Adults, cognitively intact patients on HD were included; patients with limited mobility, heart issues, and abnormal vital signs were excluded for the 6MWT. Participants were recruited from out-patient HD clinics.

Results: Participants were 86 adults (M = 61.7 years, SD = 13.81), predominantly male (58.1%), and African American (48.8%). The PFS-12 scores were strongly correlated with PROMIS-fatigue scores, pre-dialysis ($r = .58, p = .000$) and post-dialysis ($r = .57, p = .000$). The change in walk distance during 6MWT was strongly correlated with the change in PFS-12 scores ($r = .46, p = .002$). On performing a quadratic regression, 47 % of the change in walk distance was predicted by the change in PFS-12 scores. Correlation between PROMIS-fatigue and distance walked, pre-dialysis was not statistically significant ($r = -.18, p = .19$).

Conclusion: The PFS-12, PROMIS-Fatigue, and the 6MWT are useful measures for fatigue assessment in individuals on HD. Our findings confirm the construct validity of these measures in the HD population. A combination of self-report measures (PFS-12 and PROMIS-fatigue) and objective measures (6MWT) will provide more insight into individuals' fatigue experiences by contributing to data triangulation.

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