

The association between the Standardising Outcomes in Nephrology – Haemodialysis Fatigue measure and UK patient- and treatment- related characteristics.

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Introduction: Fatigue is highly prevalent in patients receiving haemodialysis (HD) and has been identified as a critically important core outcome by patients and health professionals. The Standardised Outcomes in Nephrology – Haemodialysis (SONG-HD) has established a core outcome measure for fatigue. The association of fatigue assessed by this measure with patient- and treatment-related characteristics is unknown.

Methods: We used the SONG-HD Fatigue to assess fatigue in patients receiving HD three times a week as part of a larger study. The 3-item measure is comprised of questions on tiredness, energy and effect of fatigue on usual activities over the past week. We also used a visual analogue scale (VAS) to measure the severity of fatigue at the time of assessment on a scale of 0-10. Demographic information and self-reported health literacy were also collected. Chi-squared and T-tests were used to compare patient demography with the 3 items of the measure and VAS respectively.

Results: In total, 194 patients completed the SONG-HD fatigue measure across five centres in England, who had been on kidney replacement therapy for a mean of 4.22 years with a mean age of 63.8 years, 62.3% were male, 79.9% Caucasian and 22.2% dialysing via a line. Quite a bit or severe was reported in 54.4% for tiredness, 56.9% for lacking energy and 54.2% for limited usual activities, and the mean VAS score was 5.0. All aspects of the instrument were reported as more prevalent in younger patients, in line with previous studies. Compared to older patients, the VAS from younger patients appeared to be more highly correlated with the individual questions of tiredness (correlation coefficient 0.684 vs 0.537) low energy (0.698 vs 0.545) and impact of fatigue (0.697 vs 0.602). Caucasian patients reported similar VAS scores to non-Caucasian patients (5.1 vs 5.7, $p=0.23$), despite Caucasians being an average of 10 years older. The proportion of patients with a VAS >6 increased with diabetes (60.3% vs 42.9%, $P=0.019$) but did not reach statistical significance in those with previous myocardial infarction (44.4% vs 50%, $P=0.654$) or heart failure (60% vs 48.3%, $P=0.320$). The mean VAS was 5.3 after the one-day and 5.0 after the two-day interdialytic interval ($P=0.218$), despite ultrafiltration rates of 5.2 and 6.9ml/kg/hr respectively ($P<0.001$). Increasing ultrafiltration rates was not correlated with increased fatigue scores. There was a trend toward patients who travelled >20 minutes to dialysis to report greater tiredness, low energy and impact on usual activities. Patients with decreased health literacy reported higher VAS fatigue scores (6.4 vs 5.0, $P=0.012$), quite a bit or severe fatigue (77.4% vs 49.7%, $P=0.005$), low energy (80.6% vs 50.9%, $P=0.002$) and limited usual activity (74.2% vs 49.1%, $P=0.010$).

Discussion: The SONG-HD measure was easily completed by patients in this study. Clinically plausible associations between patient characteristics and components of the fatigue measure were observed but did not reach statistical significance. The strong relationship between limited health literacy and fatigue may indicate that different underlying patient characteristics or the presence of barriers to symptom control affect fatigue in this group.