

Longitudinal Evaluation of Symptom Burden in Hemodialysis Patient (LEASH)

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Background

- Hemodialysis (HD) patients have an extremely high symptom burden associated with their end-stage renal disease (ESRD), its complications and other comorbidities.
- Symptom burden in HD patients has been historically under-recognized and under-appreciated.
- The link between health-related quality of life and increased morbidity and mortality in ESRD patients is well established.
- Beginning in September 2010, nurses on the HD Unit at St. Paul's Hospital (SPH) assess patients quarterly for symptom burden using a validated modified Edmonton Symptom Assessment System (ESAS) questionnaire, evaluating 11 symptoms over time.
- Patients with a high symptom burden and severe scores for pain, insomnia, itchiness, depression and anxiety are reviewed regularly at rounds for targeted therapy.
- As part of a continuous quality improvement initiative, the purpose of this study is to evaluate the impact of systematic assessment and management in this cohort of HD patients.

Objectives

To compare ESAS symptom scores in matched HD patients at baseline and at one year in terms of:

- Severity:** Mean score of each ESAS symptom
- Prevalence:** Percentage of patients reporting severe ESAS symptoms (defined as 7 to 10 on a scale of 0 to 10)

Methods

- Design:** retrospective cohort study
- Sample:** HD patients at SPH, Providence Health Care
- Survey Tool:** modified ESAS questionnaire (Figure 2)
- Inclusion:** Patients who were 19 years of age and older
- Exclusion:** Patients who were unable to complete the ESAS in English, Chinese, Punjabi or via an interpreter or caregiver
- Analysis:** Symptom scores for patients who had completed 2 ESAS questionnaires in September 2010 and August 2011 were tabulated. Mean scores were compared using paired t-test while prevalence of severe symptoms were analyzed using McNemar's test

Figure 1. Patient Flowchart

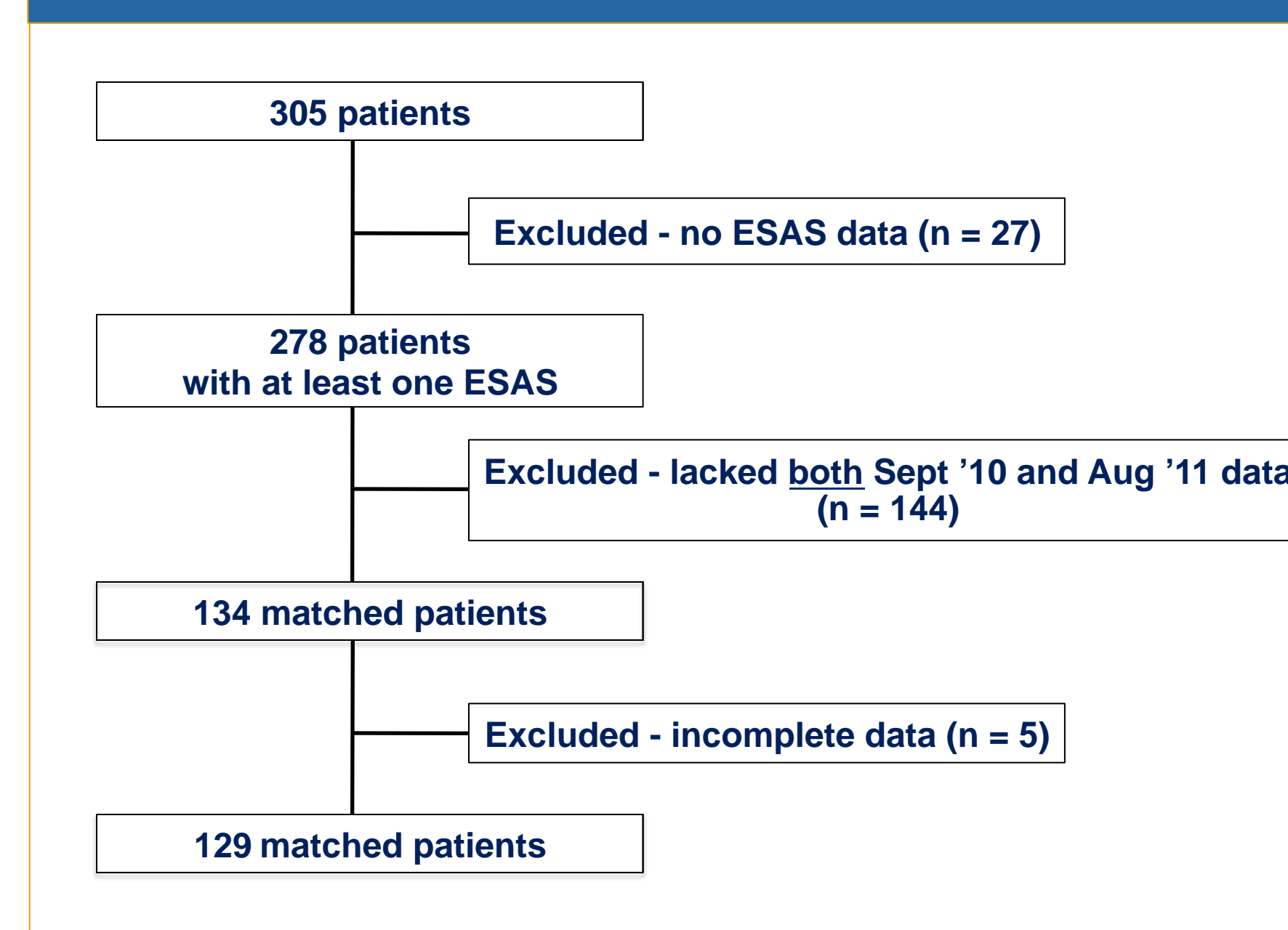


Table 1. Baseline Patient Characteristics (n=129)

Age (years; median [IQR])	74 [62-80]
Male (%)	56%
Ethnicity (%)	
Caucasian	25%
Oriental Asian	49%
South Asian	9%
Dialysis Vintage (months; median [IQR])	35 [15-64]
Comorbidity (%)	
Diabetes	53%
Hypertension	85%
Cerebrovascular Disease	12%
Cardiovascular Disease	50%
Malignancy	12%

Figure 2. ESAS Questionnaire

Providence HEALTH CARE
 MODIFIED Edmonton Symptom Assessment System (ESAS)
 NUMERICAL SCALE

Please circle the number that best describes:

No pain 0 1 2 3 4 5 6 7 8 9 10 Worst possible pain
 Not tired 0 1 2 3 4 5 6 7 8 9 10 Worst possible tiredness
 Not nauseated 0 1 2 3 4 5 6 7 8 9 10 Worst possible nausea
 Not depressed 0 1 2 3 4 5 6 7 8 9 10 Worst possible depression
 Not anxious 0 1 2 3 4 5 6 7 8 9 10 Worst possible anxiety
 Not drowsy 0 1 2 3 4 5 6 7 8 9 10 Worst possible drowsiness
 Best appetite 0 1 2 3 4 5 6 7 8 9 10 Worst possible appetite
 Best feeling of wellbeing 0 1 2 3 4 5 6 7 8 9 10 Worst possible feeling of wellbeing
 No shortness of breath 0 1 2 3 4 5 6 7 8 9 10 Worst possible shortness of breath
 No itch 0 1 2 3 4 5 6 7 8 9 10 Worst possible itch
 No problem sleeping 0 1 2 3 4 5 6 7 8 9 10 Worst possible problem sleeping
 Any other symptom? Specify: _____
 Best possible 0 1 2 3 4 5 6 7 8 9 10 Worst possible

Assess date: (DD-MON-YYYY) Assess time: (HR:MM)

Adapted from the ESAS developed by the Alberta Capital Health and Cancer Health Group Palliative Care Program.

This box to be completed by staff
 Scale completed by: Patient Entered into PROMIS (for renal only)
 Team Member Transferred to ESAS Graph (PHC-NF310)
 Team Member Assisted
 Family Member
 Patient refused (note why if known) Date entered: _____ Initial: _____

Form No. PHC-NF314 (R, Apr-11) Page 1 of 1

Results

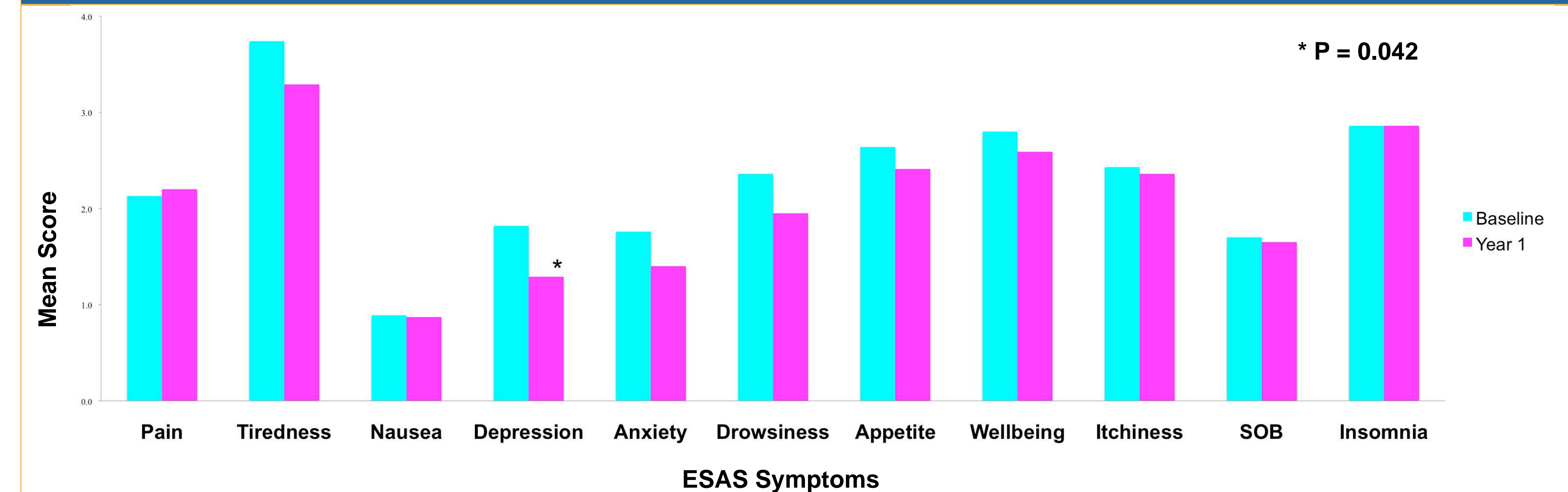


Figure 3. Comparison of Mean ESAS Symptom Scores at Baseline and at One Year (n=129)

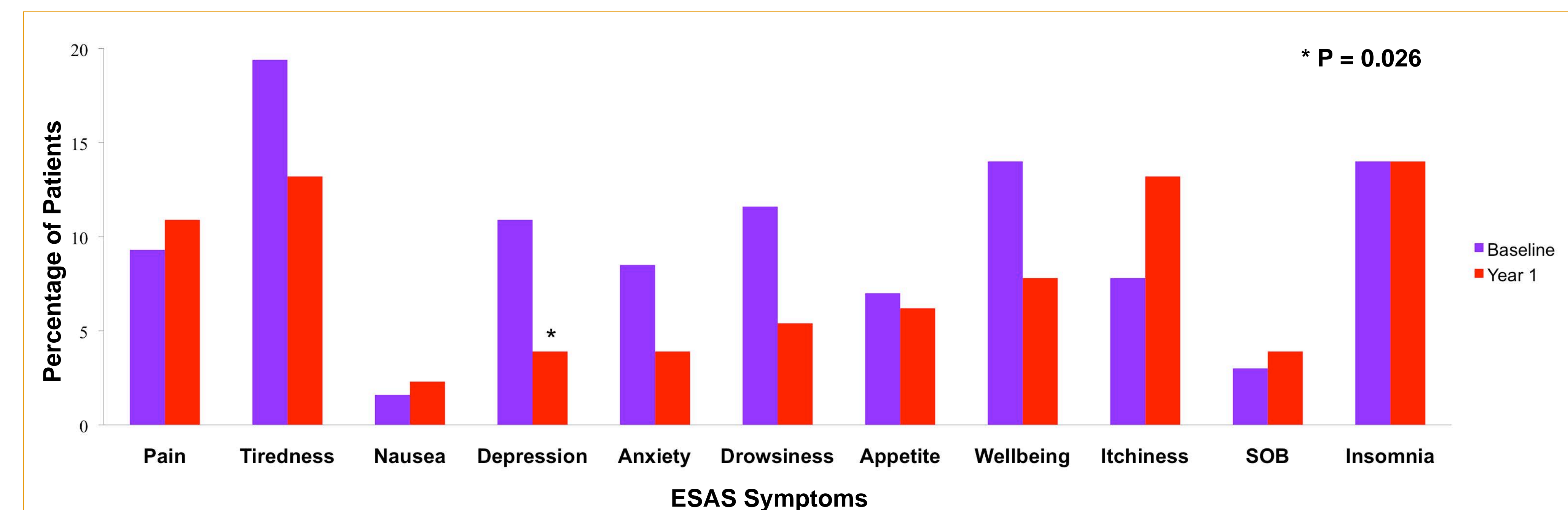


Figure 4. Percentage of Patients with severe ESAS Symptoms (Score 7 to 10) at Baseline and at One Year (n=129)

Limitations

- Retrospective study design
- Symptom scores were analyzed as a group rather than as individuals. Individual patients may have experienced clinically significant worsening or improvement of their symptoms but this was not captured in the study
- Mean ESAS scores at baseline were lower than those reported in the literature making it difficult to show a statistically significant difference in a patient population with chronic illness facing slow deterioration.
- Study may have been underpowered due to the small sample size and short duration

Conclusions

- After one year, with the exception of depression, there were no statistically significant differences in symptom burden in the HD patients at SPH.
- Further study of a longer duration is needed.

