Evaluating the Efficacy of Focused Nurse Practitioner Visits on Improving Heart Failure Related Outcomes Among Participants Enrolled in the PACE Program: A Quality Improvement Project

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PROBLEM STATEMENT

- Heart failure (HF) is a chronic, complex condition, often affecting the vulnerable population of older adults in our society (Athilingham, Clochesy, & Labrador, 2018).
- HF costs the United States (US) upwards of $31 billion every year, including the cost of health care services, medications for treatment of HF, and missed days of work (Bryant & Himawan, 2019).
- The morbidity, mortality, incidence, and prevalence of HF continue to rise despite advances in technology and HF care (HFSA, 2019).
- HF symptom management is the cornerstone to improving patient outcomes (Athilingham, Clochesy, & Labrador, 2018).
- Rehospitalization rates due to HF related sequelae are still high.
- Symptom management in HF patient remains an ongoing issue.
- A standardized system of physician visits, education, and utilizing focused Nurse Practitioner (NP) visits to enhance patient engagement, and thus improve self-care management of HF, has the capability to improve HF related outcomes in participants in the PACE program.

PROJECT PURPOSE

- The purpose of this project is to improve outcome measures among HF patients in the PACE program using focused NP visits.
- The project aims to improve participant knowledge on HF, improve quality of life, and decrease HF symptom burden for each participant.
- Does identification of goals of care, heart failure education, and symptom management during focused NP visits improve heart failure knowledge, increase quality of life, and decrease symptom burden in heart failure patients enrolled in the PACE program?

MODEL & NURSING THEORY

- QI Model
  - Plan-Do-Study-Act
- Nursing theory
  - The project was based on the Information, Motivation, Behavioral skills (IMB) theoretical model with patient engagement as a key mediator to achieve improved self-care management of HF.

METHODS

Participants & Setting

- Convenience Sample
- HF patients enrolled in the PACE program in Pinellas County, Florida

METHODS

Instruments/Tools

Table 1 Outcome Measures and Instruments. Table 1 provides a description of the measures for the primary and secondary outcomes, exploratory outcomes, and covariates.

Table 1. Description of Variables and Outcome Measures

Type of Outcome	Name of the Measure	Data Collection	Brief Description of the Measure
HF Knowledge	The Atlanta HF Knowledge	V1, V2	HF specific knowledge with 30-questions for a total score of 30. Cronbach's alpha .84
Quality of Life	The Kansas City Cardiomyopathy Questionnaire	V1, V2	Includes five clinically relevant domains: physical limitations, HF symptom (frequency, severity, and change over time), quality of life, social interference, and self-efficacy. Cronbach's alpha .66 to .95 for each domain.
HF Self-Care and Symptom Burden	Self-Care of Heart Failure Index Questionnaire	V1, V2	HF specific self-care domains including: Self-Care Maintenance, Self-management, and Self-Confidence. Includes15-items for a total score of 100. Cronbach's alpha .56 to .82. Test-retest reliability 0.90
HF Symptom Status	Symptom Status Questionnaire-Heart Failure	V1, V2	HF physical symptom questionnaire with Cronbach's alpha .80
Covariates	Demographics, medical history	V1	Age, sex, ethnicity, marital status, education, socioeconomic data and medical history. This will be collected using a validated questionnaire in prior studies.
Covariates	Clinical variables	V1	HF type and duration, ejection fraction, last hospital admission date, and medication list from medical record.

Key: V1 = Baseline / Visit 1; V2 = Visit 2

Intervention and Data Collection

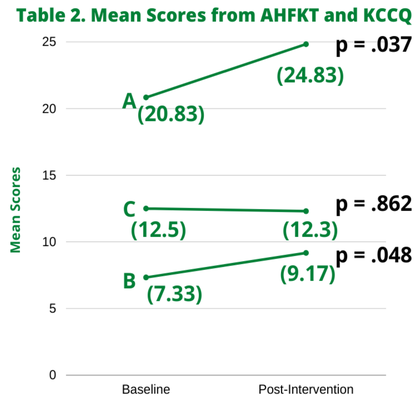
- Prior to NP visits
  - Retrieve clinical variable data including demographic data and cardiac specific data from the EHR at PACE.
  - Create evidence-based Heart Failure Patient Education booklet
- 1st NP Visit
  - Complete demographic questionnaire, GOC worksheet, the Symptom Status Questionnaire-HF (SSQ-HF), the Self Care of Heart Failure Index (SCHFI), the Atlanta Heart Failure Knowledge Test (AHFKT), the Kansas City Cardiomyopathy Questionnaire (KCCQ)
- 2nd NP Visit
  - Discuss HF Patient Education booklet
  - Complete the GOC worksheet, the SCHFI, the SSQ-HF, the AHFKT, and the KCCQ

RESULTS

- The results for the AHFKT were statistically significant (p = .037) indicating the education provided was effective.
- The self-efficacy and knowledge portion of the KCCQ was statistically significant result (p = .047) indicating the education and focused NP visits increased participant knowledge and ability to effectively manage their HF.
- In evaluation of the symptom severity questions, participants were more self-aware of their HF symptoms at the second meeting after the HF education, thus providing responses to the KCCQ that showed an inverse relationship.
- There were no significant changes in HF symptom status in the SSQ-HF.
- There were no significant changes in any of the self-care domains in the SCHFI.

Table 2 Mean Scores from AHFKT and KCCQ
A. Mean Scores from Atlanta Heart Failure Knowledge Test (Range 0-30); B. Mean Total Score on KCCQ Self-Efficacy and Knowledge Questions (Range 2-10), C. Mean Total Score on KCCQ HF Symptom Severity Questions (Range 3-18)

Table 2. Mean Scores from AHFKT and KCCQ



DISCUSSION

- The result of the AHFKT surmises the focused NP visits combined with the education provided was effective which is supported by the results from the KCCQ on knowledge and self-efficacy.
- Interestingly, at the onset of the project, the majority of the participants did not know the major symptoms of HF to monitor, nor did they understand the lifestyle changes necessary, or the self-care steps required, to control their HF symptoms.
- Another follow-up visit with additional completion of the questionnaires would likely result in clinically significant changes in the major domains evaluated in the KCCQ and SCHFI.

IMPLICATIONS FOR ADVANCED PRACTICE NURSING

- The clinical implication for this conclusion supports the evidence-based education booklet as an effective tool in the management of HF when combined with focused NP visits.

SUSTAINABILITY

- The evidence-based education booklet developed for this project has been adopted and will be used for all HF patients.
- The NP visits showed improved outcomes and would be beneficial to HF patients ongoing.

LIMITATIONS

- The Covid-19 pandemic was a major limitation for this project.
- The small sample size, due to Covid-19, was also a significant limitation.
- Participant engagement was a limitation for this project as some patients did not know or agree that they had HF.

REFERENCES

Focused NP visits combined with an effective HF patient education booklet improved participant knowledge and self-awareness of their HF symptoms.

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