

# Implementation of a Comprehensive Nurses- Guided Heart Failure Educational Program

Caryne Moodie DNP APRN FNP-C

## Problem Statement

- Individuals over the age of 65 account for more than half of all cardiovascular hospital admissions and 80% of all cardiovascular deaths in the U.S. (Mathew, & Thukha, 2018).
- Improving self- management skills through disease management programs have shown positive outcomes in adults with Heart Failure resulting in decreased hospital admission rates (Rice, Say, Betihavas, 2017).
- The incidence and prevalence of HF increases as the United States [U.S.] population ages. As a result, stringent rules and policies have been enacted to combat this growing problem. Currently, hospital readmission rates are considered quality indicators of care provided and are used as accountability measures regarding Medicare reimbursement through the Patient Protection and Affordable Care Act (PPACA) (Mathew, & Thukha, 2018)

## PROJECT PURPOSE

- The overall aim of this quality improvement project is to implement and analyze the effects of an outpatient comprehensive nurse- guided, patient-centered heart failure education program on hospital 30-day readmission rates.
- The goals of this project includes an increase in patient's heart failure knowledge, improvement in self care management behaviors and lastly, a decrease of 50% in 30-day hospital readmission rates within the first quarter of 2020.
- If successful, the final plan will be to permanently incorporate the education program within the heart failure clinic where the project is being conducted.

## MODEL/NURSING THEORY

- The Iowa Model is a framework used for the implementation of this evidence- based practice using the seven steps (Buckwalter et al., 2017).
- The Self -Care Deficit Theory developed by Dorothea E. Orem served as the nursing model. The beliefs of the theory are that people should be self- reliant, and responsible for their care and that a person's knowledge of potential health problems is needed for promotion of self-care behaviors (Nursing Theory, n.d).

## METHODS

### Subjects (Participants)

- The older patients for this program were selected from regional hospital in a small metro region in northwest Florida. Patients were filtered based on the hospital ICD billing codes for HF and the following inclusion criteria: 60 years or older, Medicare insurance coverage, and admitting/ discharge diagnosis of heart failure.

### Setting

- An 864- bed regional hospital, associated with the HF clinic, by the heart failure clinic registered nurse (RN) at hospital discharge. The HF clinic is managed by two nurse practitioners with access to a cardiologist during hours of operation. The facility included four exam rooms dedicated for the HF clinic and was equipped with the ability to conduct additional diagnostic testing if needed

### Instruments/Tools

- Atlanta Heart Failure Knowledge Test (AHFKT- version 3): a 30-question test used to measure knowledge base pre and post intervention.
- Kansas City Cardiomyopathy Questionnaire (KCCQ-12): used to measure disease- specific health status of patients with heart failure and quantifies the degree of impact HF imposes based on these clinically relevant domains: physical limitation, symptoms, severity, change over time, self- efficacy, knowledge, quality of life, and social interference

### Intervention and Data Collection

- A total of four 45-minute appointments scheduled weekly for four weeks. At the first appointment patients completed the Atlantic Heart Failure Knowledge Test (AHFKT- version 3) and the Kansas City Cardiomyopathy Questionnaire (KCCQ-12). Implementation of The Nurse Guided HF Education intervention was applied during the following three clinical follow-up visits. During the fourth and last session, patients were given the Atlantic Heart Failure Knowledge Test (AHFKT- version 3) and the Kansas City Cardiomyopathy Questionnaire (KCCQ-12) again to assess progression in heart failure and self-care management knowledge.

Patient Demographics

	Frequency	Percentage
Age		
65-75	5	38.5%
76-85	3	23%
86 and older	5	38.5%
Gender		
Male	10	69.2%
Female	3	23%
Race		
African American	1	7.7%
Caucasian	12	92.3%
Co morbidities		
Hypertension	13	100%
COPD	4	30.8%
Coronary Artery Disease	8	61.5%
Hyperlipidemia	9	69.2%
Chronic Kidney Disease	3	23%
Diabetes Mellitus II	7	53.8%
Sensory Impairment		
Vision	4	30.8%
Hearing	1	7.7%

Figure 1

Variable	Mean	Median	SD
A-HFKT			
A-HFKT <sub>1</sub> /Pretest	22.15	22	1.46
A-HFKT <sub>2</sub> /Posttest	25.08	26	1.60
KCCQ			
KCCQ <sub>1</sub> /Pretest	31.92	31	10.92
KCCQ <sub>2</sub> /Posttest	45.15	50	11.34

Figure 2

Fig.1. Patient demographics and comorbidities of the project sample

Fig. 2. Results of pre and post scale scores before and after The Nurse Guided Heart Failure Intervention.

## RESULTS/ DISCUSSION

- The paired t test indicated that posttest scores were statistically significantly higher than pretest scores across the board. The AHFKT posttest scores (Figure 1) were significant with  $t= 7.3131$ ,  $p = 0.0001$ . The mean confidence of the pre and post AHFKT was -2.92 with a 95% confidence interval of this difference from -3.79 to -2.05. As far the KCCQ, posttest scores (Figure 2) were significantly higher for maintenance and symptom management ( $t= 3.0299$ ,  $p=0.0058$ ). The mean confidence of pre and post scores was -13.23 with 95% confidence interval of this difference from -22.24 to -4.22. Lastly, there was a 100% success rate in reduction of readmission rates with none of the participates readmitting to the hospital 30 days post discharge.
- Nurse guided standardized comprehensive heart failure patient education programs with focus on self-care management and disease knowledge has been demonstrated in improve the challenges HF patients face and ensures patients are equipped self-manage the disease out of the hospital.

## IMPLICATIONS FOR ADVANCE PRACTICE NURSING

Research has shown that deployment of nurse guided standardized patient education programs, focusing on self-care management and disease knowledge, has led to reductions in hospital readmission rates and improved health outcomes (Baptiste, Mark, Paris, and Taylor, 2013). Implementation of this project will increase patient's HF knowledge and self-management skills resulting in early management of symptoms outpatient. The success of this project will further provide the proof that nurse led educational programs for HF patients can lead to decrease rates of HF hospitalizations. Future HF clinics can use the methods and models used in this project to implement educational programs within their facilities..

## REFERENCES

- Buckwalter, K. C., Cullen, L., Hanrahan, K., Kleiber, C., McCarthy, A. M., Rakel, B., Steelman, V., Tripp-Reimer, T., & Tucker, S. (2017). Iowa Model of Evidence-Based Practice: Revisions and Validation. *WORLDVIEWS ON EVIDENCE BASED NURSING*, 3, 175.
- Mathew, S., & Thukha, H. (2018). Pilot testing of the effectiveness of nurse-guided, patient-centered heart failure education for older adults. *Geriatric Nursing*, 39(4), 376–381. <https://doi-org.ezproxy.lib.usf.edu/10.1016/j.gerinurse.2017.11.006>
- Rice, H., Say, R., & Betihavas, V. (2018). The effect of nurse-led education on hospitalisation, readmission, quality of life and cost in adults with heart failure. A systematic review. *Patient Education and Counseling*, 3, 363.

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