KNOWLEDGE AND COMFORT OF HEART FAILURE DISCHARGE EDUCATION AMONG STAFF NURSES

Shelby Rock, RN, BSN, DNP-FNP Student
University of Missouri Sinclair School of Nursing

Sinclair School of Nursing
University of Missouri Health

MU Health Care
University of Missouri Health System

INTRODUCTION

Problem
- There are approximately 5.7 million adults in the United States diagnosed with heart failure (Centers for Disease Control and Prevention [CDC], 2016).
- Between 2014 and 2016, an estimated 58.6 hospitalizations per 1,000 Medicare beneficiaries were attributed to heart failure (CDC, 2019).
- Heart failure costs the United States approximately $30.7 billion each year (CDC, 2019).

Literature Review
- A self-management education program consisting of basic anatomy and physiology, risk factors, symptoms and diagnosis, management, diet and exercise, and medications and side effects produced statistically significant improvements in quality of life (QOL) in patients with heart failure with a mean total change in QOL of 6.97 (standard deviation [SD] = 6.47) for the intervention group and 0.93 (SD = 3.67) for the control group (p < 0.001, Abbasi et al., 2018).
- Heart failure patients in Vietnam, participating in the Optimize Heart Failure Program, which included education regarding diet, exercise, weight control, and detection of worsening heart failure symptoms at home saw a decrease in readmission rates at 30 days (8.3%) and at 60 days (12.5%, Phuong et al., 2019).
- In a randomized controlled trial, self-care behaviors in patients that were introduced to a multidisciplinary management program (MDMP) consisting of discharge education, physical exercise, and follow-up after discharge revealed improvements in self-care behaviors at both 90 (-6.90 ± 1, p < 0.001) and 180 days (-8.29 ± 0.88, p < 0.001, Chen at al., 2018).

PICOT

In staff nurses working at a Midwest Academic Center, on the cardiovascular floor (P), how does an evidenced based education intervention (I) compared to current practice (C) increase staff nurse knowledge and comfort with heart failure discharge education (O) within a 5-week period (T)?

OBJECTIVES

1. 75% of all staff nurses working on the cardiovascular floor complete both pre- and post-intervention surveys.
2. 10% increase in staff nurse knowledge of heart failure discharge education based on scores from the *Nurses' Knowledge of Heart Failure Education Survey*.
3. 10% increase in staff nurse comfort of heart failure discharge education based on scores from the *Questionnaire of Nurses Comfort Educating and Frequency Delivering Patient Education on Heart Failure Themes*.
4. Staff nurses will view the intervention as acceptable, appropriate, and feasible.

ACKNOWLEDGEMENTS

A special thank you to the those who assisted with this project:
Dr. Shelby Thomas, Committee Chair
Dr. Jo-Ana Chase, Committee Member
Melissa Dowler, Committee Member
Dr. Jan Sherman
University of Missouri Health Care Cardiovascular Nurses

MATERIALS AND METHODS

Setting and Population: The setting for this Quality Improvement Project was the cardiovascular floor at University of Missouri Health Care. UMHC is a large academic teaching hospital, serving residents from all of Missouri. The population included staff nurses employed on UMHC's cardiovascular floor.

Design: Intermediate testing post-test design using convenience with purposive sampling.
- The *Nurses' Knowledge of Heart Failure Education Survey* and *Questionnaire of Nurses Comfort Educating and Frequency Delivering Patient Education on Heart Failure Themes* were administered to participants before education intervention (May 2021) and after education completion (April 2021).
- The *Acceptability of Intervention Measure, Intervention Appropriateness Measure, and Feasibility of Intervention Measure* was administered after education completion (April 2021).

RESULTS

Demographics:
- Ten of the participants (90.9%) identified as female and one of the participants (9.09%) identified as male.
- One hundred percent of participants were Caucasian.
- The mean age of the participants was 30.73 (median of 27).
- The mean years of experience as a registered nurse was 6.91 (median of 3).

Results
- A paired samples t-test was conducted to compare the self-report scores of participants comfortability, frequency, and knowledge of heart failure before the education sessions and after the education sessions.
- Only question 15 produced a large statistically significant change of (M = -0.5, SD = 0.6, p = .016, d = -.87).
- The greatest change in comfortability was seen in the low sodium diet and activity and exercise categories.
  - Question 14, in the low sodium diet category, revealed a large statistically significant change (M = -2.2, SD = 1.4, p = .00, d = -1.56).
  - Question 21, in the activity and exercise category, revealed a large statistically significant change (M = -2.0, SD = 1.9, p = .007, d = -1.03).
- The greatest change in frequency was seen in the low sodium diet and activity and heart failure beliefs.
  - Question 12, in the low sodium diet category, revealed a large statistically significant change (M = -2.64, SD = 1.21, p = .00, d = -2.19).
  - Question 41, in the activity and exercise category, revealed a large statistically significant change (M = -2.45, SD = 1.76, p = .001, d = -1.40).
- Mean scores ranged between 3.81 and 4.82 out of five for *The Acceptability of Intervention Measure, Intervention Appropriateness Measure, and Feasibility of Intervention Measure*.

CONCLUSIONS

- Limitations:
  - Small sample size
  - Inconclusive questions on the *Nurses' Knowledge of Heart Failure Survey*
- Objective 1 not met with only 39% of staff nurses working on the cardiovascular floor completing both pre- and post- intervention surveys
- Object 2 was partially met with a 10% increase in staff knowledge displayed in six questions
- Objective 3 was met with at least a 10% increase in staff nurse comfortability and frequency delivering heart failure education
- Objective 4 was met with a mean score between 3.81 and 4.82 for the acceptability, appropriateness, and feasibility of the project
- Educational sessions provided bi-weekly helped increase the comfortability and frequency of delivering heart failure education among staff nurses.
- Repeat studies using larger sample sizes would provide more accurate and statistically significant data.
- Future research must focus on the most appropriate means of delivering heart failure self-care education to both staff nurses and patients.

REFERENCES

1. Albert, N. A., Cohen, B., Liu, X., Best, C. H., Aspinwall, L., & Pratt, L. (2015). Hospital nurses' comfort and frequency of delivering heart failure self-care education. *European Journal of Cardiac Nursing, 14*(5), 431-440. https://doi.org/10.1177/1474515114540756
2. Albert, N. A., Collier, S., Sumodi, V., Wilkinson, S., Hammel, J. P., Vopat, L., Willis, C., & Bittel, B. (2002). Nurses' knowledge of heart failure education principles. *Heart & Lung, 31*(2), 102-112. https://doi.org/10.1067/mhl.2002.122837
3. Centers for Disease Control and Prevention (CDC, 2016). *Heart failure fact sheet*. https://www.cdc.gov/dhdsp/data_statistics/fact_sheets/fs_heart_failure.htm
2. CDC. (2019). *Interactive atlas of heart disease and stroke tablets*. https://nccd.cdc.gov/DHDSPAtlas/Default.aspx?state=MO
3. Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation Science, 12*(108). 10.1186/s13012-017-0635-3

rocksl@umsystem.edu
Sinclair SON: http://nursing.missouri.edu/index.php

The Questionnaire of Nurses Comfort Educating and Frequency Delivering Patient Education on Heart Failure Themes

Nurses' Knowledge of Heart Failure Education Survey

The Acceptability of Intervention Measure, Intervention Appropriateness Measure, and Feasibility of Intervention Measure