A Nurse-led Heart Failure Education Program to Improve Knowledge and Self-Care and Reduce 30-day Readmissions

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Background

Heart failure is the leading cause of hospital readmissions in the United States[1]. Globally, approximately 23 million people are living with heart failure. Nationally, close to 5.8 million people are affected and greater than 550, 000 people are diagnosed with heart failure annually. Approximately $32 billion dollars is spent to treat individuals with heart failure. The American Heart Association (AHA) and American College of Cardiology (ACC) provide specific recommendations for the treatment of individuals with heart failure.

Purpose

To evaluate the impact of a nurse-led heart failure patient education program on knowledge, self-care behaviors, and all cause 30-day hospital readmissions.

Methods

We employed a quasi-experimental design, enrolling (N=29) participants. A nurse-led heart failure education program was implemented using two validated instruments to measure knowledge and self-care behaviors for patients admitted to the hospital with a primary and secondary diagnosis of heart failure. This study was conducted over a five month period on two inpatient cardiovascular units at an urban academic medical center in the northeastern, United States.

Measures

A) Knowledge from baseline to 7 and 90 days post discharge
B) Self-care behaviors from baseline to 7 and 30 days post discharge
C) 30-day readmission rates in the pre and post intervention periods
D) Nurses' use of teach-back method

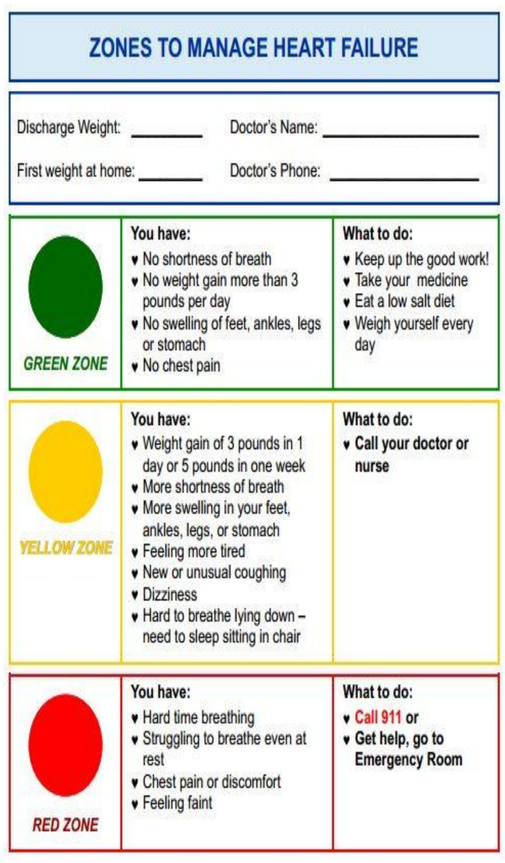
Data Collection instruments:

1) Dutch Heart Failure Knowledge Scale: measured patient's general knowledge about heart failure
2) Self-care Heart Failure Index: measured self-care maintenance, management and confidence
3) Conviction and Confidence Scale: to evaluate nurses beliefs and confidence with using teach-back method

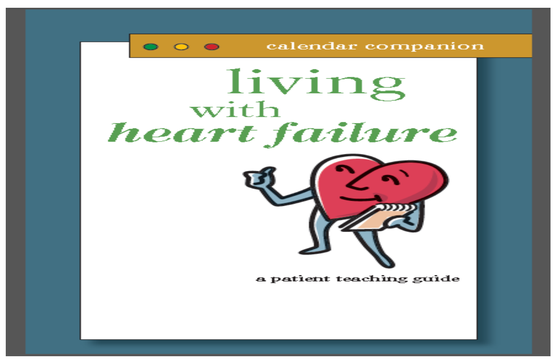
Interventions

- Teach-back Method instruction provided to nurses prior to implementing patient education

- Heart failure education recommended by the AHA and ACC encompassing:
  - ✓medication adherence
  - ✓daily weight monitoring
  - ✓diet and fluid restriction
  - ✓ activity
  - ✓ smoking cessation
  - ✓ decreased alcohol consumption and
  - ✓symptom recognition
  - ✓Educate patients to contact doctor or nurse for advise when symptoms occur



Source: https://health.uconn.edu/cardiology/wp-content/uploads/sites/3/2015/10/form_zones_english.pdf



Nurses provided one-to-one heart failure education to participants during hospitalization over 30-60 minutes using instructional materials provided by the Robert Woods Johnson Foundation.

Source: http://www.rwjf.org/en/library/research/2008/06/expecting-success-toolkit/you-can-live-with-heart-failure-.htm

Results

A) There was a statistically significant improvement in **Dutch Heart Failure Knowledge** scores from baseline to 7-days and from baseline to 90-days after hospital discharge.

Repeated measure Dutch Heart Failure Knowledge Score

DHFKS	Total Sample N=29	N=19	N=16	T1 to T2 *P*	T1 to T3 *P*
	T0 (Baseline)	T1 (7 days)	T3 (90 days)		
DHFKS, mean (SD)	11.965 (1.76)	13.32 (2.08)	13.31 (1.29)	.001**	.032**

B) A statistically significant improvement in **self care maintenance** scores from baseline to 7 and 30 days after hospital discharge**.** There was a statistically significance improvement in **self-care management** scores after 30 days. **Self-care confidence scores** improved after 7 and 30 days.

Repeated Measure Comparisons of Self-care Behavior Score

SCHFI Scores	T0 (Baseline) N=29	T1 (7-days) N=19	T2 (30-days) N=18	T0 to T1 *P*	T0 to T2 *P*
SCHFI Maintenance, Mean (SD)	64.59 (17.76)	85.43 (10.32)	89.07(8.39)	.000**	.000**
SCHFI Management, Mean (SD)	55.86 (15.64)	78.68 (17.15)	76.50 (17.01)	.001**	.013**
SCHFI Confidence, Mean (SD)	71.61 (16.62)	77.84 (17.48)	86.18 (14.18)	.169	.017**

C) There was no statistically significant difference in 30-day readmission from the pre and post intervention periods.

D) The majority of the (N=23) nurses agreed that it is important to use **Teach-back Method**, with mean score of 9.4 of 10 being the highest. Nurses also stated they felt confident in their ability to use teach back method with a mean of 7.5. These findings show it is important to continue encouraging nurses to use teach back method to improve confidence.

Conclusion

Standardized one-to-one nurse-led heart failure education improved patient's knowledge and self-care maintenance, management, and confidence. In addition, it is recommended that a timely follow-up schedule should be provided to patient prior to hospital discharge. Furthermore, nurses are encouraged to use evidence-based teaching methods to enhance patient's comprehension of education.

Clinical Implications

It is recommended that hospitals implement nurse-led heart failure education programs that encompass the key factors identified by the AHA and ACC guidelines. Nurses are uniquely qualified to implement such programs that can improve health outcomes and accommodate evidence-based recommendations to practice settings.

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