

# Effects of Teach-Back Method of Education on Knowledge of Heart Failure Self-Care Management and Post-Discharge Knowledge Retention

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## Background

Heart Failure (HF) is a progressive, incurable and costly disease which is responsible for 50 percent deaths within 5 years of the diagnosis and affects more than 5 million people in the United States (Benjamin et al., 2017; Centers for Disease Control and Prevention [CDC], 2016). Approximately 40 to 80 percent of patient education is immediately forgotten, and about 50 percent of retained information is inaccurate; knowledge is an essential bridge between patient teaching, comprehension and knowledge retention by using the teach-back method (Farris, 2015; Rouse et al., 2016; Stamp et al., 2014).



## Objectives

### Problem

HF is the leading cause of hospitalization in adults ages 65 years and older; patient education is necessary in heart failure management, and nurse led heart failure education at time of hospital discharge have resulted in improved patient knowledge, however any research protocols fail to recognize education as a specific intervention in HF management (Boyde et al., 2018; Huynh et al., 2018; Konmuri et al., 2012). The community hospital in the mid-Atlantic USA does not have a well defined education pathway or well defined discharge plan to improve self-care management in HF patients.

### Purpose

The purpose of this study was to compare teach-back education method versus standard education and care, on knowledge of HF self-care management at discharge and retention of knowledge at 3 to 10 days post discharge

### Specific Aims

1. To compare the teach-back method of teaching versus the standard care of HF, on HF self-care management.
2. To evaluate the effect of the teach-back method of teaching on HF knowledge retention.

## Methods

### Design

Quantitative study with non-probability convenience sampling.

### Sample

22 selected patients, 65 years and older, admitted with HF disease or exacerbation, over a 6 month period.

### Setting

A community hospital in the Mid-Atlantic USA.

### Intervention

The intervention group received face to face HF education using teach-back method, HF handbook plus the standard care. The control group received the standard care and the HF handbook. The intervention was measured using the Dutch HF knowledge scale (DHFKS), the European HF Self-care and Behavior scale (EHFScB-9) and teach-back questionnaire during hospital stay. The teach-back questionnaire and EHFScB-9 scale were repeated during follow up telephone calls, three to ten days post discharge.

### Data Collection

The Teach-back questionnaire, the EHFScB-9 and DHFKS intervention tools were used to measure HF knowledge retention.

### Data Analysis Plan

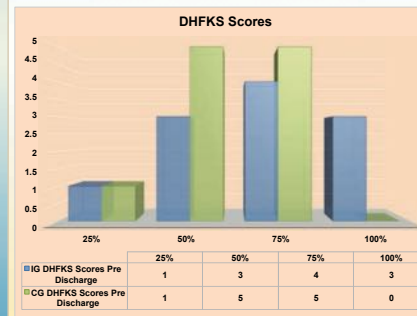
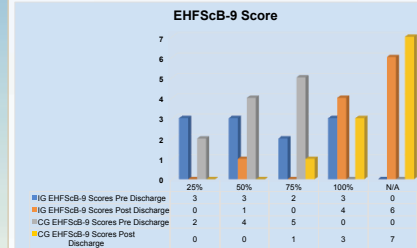
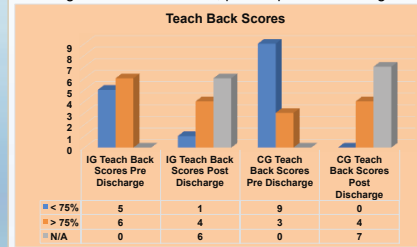
Data was saved on an Excel spreadsheet and analyzed using IBM SPSS statistical software. Descriptive statistics was used to evaluate demographic data. The study question was addressed using cross-tabulation, chi-square analysis and Mann-Whitney analysis.

### Demographics

VARIABLES	TOTAL SAMPLE	INTERVENTION (FREQUENCY (%))	CONTROL (FREQUENCY (%))
Age Group			
18-24	1(5%)	0(0%)	0(0%)
25-34	7(31.8%)	3(27.3%)	4(36.4%)
35-44	4(18.2%)	2(18.2%)	2(18.2%)
Gender			
Male	11(50%)	5(45.5%)	6(54.5%)
Female	11(50%)	6(54.5%)	5(45.5%)
Ethnicity			
African American	8(27.3%)	3(18.2%)	5(29.1%)
Caucasian	16(72.7%)	9(51.8%)	7(40.9%)
Intervention Groups			
IG	11(50%)		
CG	11(50%)		

## Results

The pre-discharge teach-back knowledge retention was statistically significant between groups ( $t(20) = 2.28, p = 0.03$ ). Post teach-back intervention, EHFScB-9 and DHFKS scores were demonstrated as moderate effect size and deemed clinically significant. The community hospital now has a transitional nurse navigators using teach back method of education on self-care management of HF disease, prior to patient discharge.



## Conclusions

Limitations for this pilot study included small sample population, age limitation by the inclusion criteria, decreased interest in participation due to acute illness and poor response to follow up telephone call. However, the findings from this pilot study were encouraging and supported the effectiveness of the teach-back method on knowledge retention and self-care management of HF. Improving patient knowledge on HF disease and self-care management, using the teach back method of education, is an important tool for patient empowerment and improving patient outcomes.

**Recommendations:** Further research study with a larger sample size, will be needed to clearly evaluate the effectiveness of dedicated HF education, using teach-back method, on knowledge retention and the subsequent impact on self-care behaviors.

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