Evaluation of Written Inpatient Heart Failure Education to Support Self-Care after Discharge

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Heart Failure in America

Heart Disease Death Rates, 2007-2009
Adults Ages 35+, by County

Rates are spatially smoothed to enhance the stability of rates in counties with small populations.

ICD-10 codes for heart disease: I00-I09, I11, I13, I20-I51

Data Source: National Vital Statistics System and the U.S. Census Bureau

(CDC, 2014)
Heart Failure in Georgia

(CDC, 2014)
Heart Failure Facts

- 5.1 million Americans
- 1 in 9 will die from Heart Failure
- Cost approximately $31 billion year
- 43% will die within 5 years
- Heart Disease is the #1 killer in GA

(CDC Fact Sheet, 2014)
Problem: Readmission

- Heart Failure exacerbations account for > 1 million readmissions a year

- 50% of Heart Failure readmissions could be prevented with better patient disease management

- Cost institutions $32 billion annually, up to $12,000 per patient per hospital stay

(CDC Heart Failure Fact Sheet, 2014; Daley, 2010)
HF Readmission Rates

(University Data: (Lytle, PPT slides, 2014); data from 2012
United States: (Becker Hospital Review; Gamble, 2012); data from 2012
*Georgia: (CMS, 2014); data from 2006 to 2009)
Evidence Summary

Compare the impact of discharge education on admission rates for adults admitted to the hospital with heart failure.

- Nine articles (4- II/B, 2- III/A, 1- I/B, 1- III/D, 1-IIa/B)
  - Twelve articles were reviewed
  - Three articles were excluded

- Databases Searched: CINAHL, OVID Medline, Google Scholar, PubMed
  - “heart failure or congestive heart failure” (196170)
  - “discharge education” (196)
  - “heart failure readmission” (89)
  - “adult literacy or health literacy” (4629)
  - “red/yellow/green tool kit” (2)
Single v. Multisession HF Education

Decreased readmission in persons with low literacy with multisession HF education sessions
(Incidence rate ratio, 0.75; 95% CI; 0.45-1.25)

All cause readmission did not differ by group
(Incidence rate ratio 1.01, 95% CI; 0.83-1.22)

Literacy is an independent predictor for improved self-care

(Dewalt et al, 2011)
Nurse led Self-Care HF Education

RCT (n=114) one-on-one HF discharge teaching

- Nurse group had higher HF knowledge (P=.007)
- Readmissions had low HF knowledge (P=.002)
- Improvement in self-care in nurse led education

RCT (n=223) 60-minute HF discharge teaching

- Increased self-care 30 & 90-days post discharge (P=.001)
- Fewer readmissions (P=.009)
- Savings of $2823 per patient (P=0.035)

(Kommuri, Johnson, & Koelling, 2012; Koelling, Johnson, Cody, & Aaronson, 2005)
Low Literacy correlated with age ($P < .001$) and education ($P = .017$).

- Adverse Event 1.5 to 3 times more likely.
- Decreased HF knowledge ($P < .001$).
- High 30-day readmission rate ($P = .116$).

A cross sectional descriptive (n=95) by Dennison et al., 2011.
Disease Specific Education

Red/Yellow/Green Tool (n=113)

- Improved Self-Care
  (95% CI; .06, 2.3)
- No increase in HF knowledge
- Decreased readmission with single face nurse education session

(Dewalt et al., 2003)
Transitional Care Programs

Decrease in readmission rate: 20.2% to 15.8% in 9 months

Emergency department education and referral to clinic

Written education materials with self-care focus

Palliative care referrals were made when appropriate.

7-day Follow up appointments a hospital based clinic or cardiologist

(Daley, 2010)
Conceptual Framework: Health Belief Model

Individual Perception
- Perceived severity of heart failure

Modifying Factors
- Socio-psychological and demographic variables
- Perceived threat of heart failure
- Perceived barriers and benefits of self care with heart failure

Likelihood of Action
- Likelihood of following HF self-care guidelines

CUES TO ACTION
- Mass media, advice from others, education, family, and friends

(Polit & Beck, 2008)
Practice Site: University Hospital

“How can we reduce HF readmissions globally in our organization?”
Purpose

- Revise written HF education materials to the appropriate literacy level
- Align with the ACC/AHA standards.
- Compare current practice, policies, and procedures related to the distribution of HF education materials to current EBP recommendations
Aim of Project

- Review current HF education materials for literacy level.
- Revise HF education: Self-care management - 4th / 5th grade literacy level.
- Compare UH current practice, policies, and procedures related to HF education to literature.
- Create written HF written education in Spanish language.

Compliance with ACC/AHA standards.
GOAL: Reduction in Heart Failure Readmissions!

- Fry Readability scale to test literacy level.
- Bilingual written education forms at 4th/5th grade
- System wide nurse led HF education intervention at discharge.
**Current HF Written Education**

- Self-care goals unclear (ACC e171)
- 8th grade literacy level
- 25-page front and back booklet in black and white
- Poor organization of sections
- Patient unable to individualize goals

(University Hospital, patient education, 2004: ACC, 2013)
Adult Literacy in Augusta-Richmond County

Population Literacy

- 35% Functionally Illiterate
- 18% Eight Grade or less
- 47% Ninth Grade or above

Total Population 139,504

(US Department of Education, 2003)
New HF Written Education

- Meets ACC/AHA guidelines
- 4th grade literacy level
- Clear self-care themes that are evidence based
- Available in English and Spanish languages
- Savings of $8880 per year

(ACC, 2013: Joint Commission, 2012)
Heart Failure Booklet Cost Comparison

Annual Cost

- New Education: $1,620
- Old Education: $10,500
Recommendations for University HF Program

- System use of new HF written education
- Evaluate nursing staff on HF self-care teaching at bedside
- Reevaluation of HF written education based on ACC/AHA updates
- Use Fry Scale or GRID for literacy testing of written materials
- Increase use of HF educators
- HF Educator coverage in ED
Dissemination of Information

Presentation to UH
April 17, 2014
"How you do anything is how you do everything"

M. A. Bowman, MD
Project Outcomes

Integration into the EMR
- Patient tracking
- Information availability
- Home health, inpatient and outpatient use

Post Admission Survey with Telehealth
- Identify strength and weakness
- Communication across the care continuum
- Identify high risk patient

Cardiology Office Education
- Added validity
- Increased patient exposure to information
- Addition of HF clinic
Readmission Reduction

University Data: (Lytle, PPT slides, 2014); data from 2012-2015
Unless we are making progress in our nursing every year, every month, every week, take my word for it we are going back. ~ Florence Nightingale
Deepest Gratitude........

Dr. Murphy, Dr. Bentley, Dr. Landrum, Terri DeFusco, Heidi Nelson, Dr. Mac Bowman, Becky Echols, Dr. Chandler, Gabe Law, Pauline Curry, Jenny and Makenna Baldwin, my husband Matt Frame, the University Hospital staff, GRU CON and COGS staff, friends, and family.

“It takes a village.”
-Hillary Clinton
References


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