Objective

• The learner will state four modifiable factors associated with HF patients receiving home health care services use of emergent care services.

Purpose

• Explore use of the Stress Process Model (SPM) to understand heart failure (HF) patients’ risk and protective factors for emergent care

Menne and Whitlatch (2007)
Primary stressors
- Diagnosis of heart failure
- Symptoms
- Life expectancy

Secondary stressors
- Spill over to person’s life
- Role function
- Intra-psychic strains
  - Depression
  - Anxiety

Research Questions
- Are demographic variables risk/protective factors for emergent care?
- What primary stressors are risk factors for emergent care?
- What secondary strains are risk factors for emergent care?
- How is the Stress Process Model useful in understanding risk/protective factors for emergent care?
- Is the OASIS data useful in measuring risk/protective factors for emergent care?

Risk factors for emergent care
- Role strain
  - Compromised self care
  - Spouse or family caregiver
- Intra-psychic strain
  - Anxiety
  - Depression

Method
- 790 HF episodes of care in Home health care
- Case control: Compare the group of HF patients who had emergent care episodes with the group of HF patients who had no emergent care
- IRB approval: health care organization & university

Episode of Care

- Medicare Outcome Assessment Data Set (OASIS)
  - Unduplicated episode used the Start of Care survey (SOC) in 2005 and end of care survey (EOC) to 2nd quarter of 2006
  - All episodes included a SOC and EOC
  - Used emergent care data on end of care survey

Measures

- HF defined ICD9 428 or 402
- Variables in OASIS data set
  - Background & context
    - Age, gender, race, ethnicity, insurance, place of residence
    - Risk factors; smoking, obesity, substances
  - Primary Stressors
    - HF, Dyspnea, Cognitive status, Vision, Rehab Prognosis, Life expectancy
  - Secondary Role Strain
    - Functional status, medication management, therapy in home
  - Social roles
    - living with spouse or family caregiver
  - Intra-psychic strain – Depression & Anxiety

Outcome Emergent Care

- (M0830) binary (yes/no)
- Unplanned
  - Office visit
  - Emergency room
  - Hospital
  - Urgent care

Analysis

- descriptive statistics
- chi square
Sebern, M., Stetzer, F., & Marek, K  
(2013). Heart Failure Patient Risk  
Factors for Emergent Care in Home  
Health.

One-sample chi-square test

- Determined what percentage of sample falls  
  into each of the established categories.  
- For continuous variables used 1-variable  
  logistic regression. Cochran Armitage test for  
  trend in continuous variable.  
- Odds ratio indicates odds of emergent care  
  given the presence of the risk factor.  
- Sample was sufficient to detect an odds ratio  
  of 1.55 with 80% power, assuming  
  approximately one-third of the cases end in  
  emergent care and a 95% confidence interval  
  size for the odds ratio (equivalent to a Chi  
  square test of 0.05 significance level).

Description of Sample n = 790

- Age mean 79 (sd 9.6)  
- Gender 41% male, 58% female  
- Race  
  - White 688 or 87%  
  - Black and other 102 or 13%  
  - Hispanic 15 or 2%  
- Payment source  
  - Medicare 710 or 89%  
  - Medicare and Medicaid 80 or 10%  
- Current Residence  
  - Home 760 or 96%

Emergent care episodes

- Emergent care 36% (285) any type  
  of EC  
- Emergent care none 63% (498)  
- Inpatient facility admission 42%  
  (120) hospital  
- Emergent Care Reason  
  - 32% (82) Cardiac  
  - 29% (74) Respiratory  
  - 7% (18) Injury  
  - 5.8% (15) Wound

Research Question #1: demographic variables risk factors for emergent care

- Not significant: Age, gender,  
  race, ethnicity, insurance, risk  
  factors, and place of residence.  

- Note it is significant that  
  demographics are not significant
Research Question #2: primary stressors risk factors for emergent care

- Not significant: HF primary or secondary, cognitive status, vision.
- Significant primary stressors
  - Dyspnea
    - Odds 1.90 (CI 1.40 -2.6)
    - Cochran-Armitage trend test
      - Z = -5.2, p = .0007
  - Rehab prognosis Good
    - Odds 0.6 (CI 0.44 – 0.81)
    - chi-square 10.7, p = 0.001
  - Live expectancy < 6months
    - Odds 1.4 (CI 1.0-1.8)
    - chi-square 5.1, p = 0.022

Research question #3: Secondary stressors risk/protective factors for emergent care

- Functional Deficits M0 640-700 ADL score (0-6)
  - Cochran-Armitage trend, Z = -5.23, p = .0001
  - For each point increase ADL score odds increase 12%

- Management of oral meds M0 780
  - Chi square 4.8, p = 0.02
  - Odds ratio 1.4 (1.04 -2.03)

- M0340 lives with Spouse less EC.
  - Chi Square 3.1, p = 0.07
  - Odds ratio .75 (CI 0.55 to 1.0)

Secondary stressors risk factors (continued)

- M0580 Anxiety 59% (471)
  - Chi Square 15, p = 0.0001
  - Odds ration 1.8 (CI 1.3 to 2.4)

- M0560 Cognitive function associated with
  - M0590 depressed mood; Chi square 10, p = 0.02
  - M0590 hopelessness; Chi square 28, p < 0.0001

Stress Process Model use?

- Primary stressor
- Disease & symptoms
- Life expectancy
- Secondary stressors sensitive to nursing interventions
  - Activities of daily living
  - Med management
  - Anxiety
  - Lives with spouse
  - Palliative care

Oasis data set useful?

- Useful to measure anxiety, dyspnea, ADL, role, and med management
- Limited usefulness measuring depression and quality of relationship between spouse and patient
Nursing practice implications

Develop & evaluate interventions
- Assess & intervene anxiety
- Manage dyspnea & meds
- Improve functional status
- Palliative care alternative to emergent care
- Target primary prevention interventions to both the spouse/partner and patient with HF

Research Implications

- Influence of anxiety on self care
- Mediating effects of social support on primary and secondary stressors
- iPad delivered, dyadic, social support intervention, focusing on shared communication, decision making, and reciprocity to improve outcomes for patients and family caregivers

Conclusion

- Risk/protective factors for emergent care
  - Primary Stressors
    - Dyspnea (odds ratio [OR] = 1.9)
    - Life expectancy less than 6 months (OR = 1.4)
    - Rehab prognosis (OR = 0.60)
  - Secondary role strain
    - ADL impairments (OR = 1.12)
    - Manage oral medications (OR = 1.4)
    - Anxiety (OR = 1.8)
    - Lives with spouse (OR = 0.75)