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The purpose of this DNP project is to determine 30-day hospital readmission rates, frequencies, and heart failure classification for patients with heart failure. Specifi c aims include comparing computed annual readmission rates with national average, determine the number of multiple 30-day readmissions, provide descriptive data for demographic variables, and correlate age and heart failure classification with the number of multiple readmissions.

Methods: A retrospective chart review was conducted to collect hospital admission and study data. The setting occurred in an urban hospital in Memphis, TN. The study was reviewed by the University of Tennessee Internal Review Board and deemed exempt. The electronic medical records were queried from July 1, 2019 through December 31, 2019 for heart failure ICD-10 codes beginning with the prefix 150 and a report was generated. Data was cleaned such that each patient admitted had only one heart failure ICD-10 code. The total number of heart failure admissions was computed and compared to national average. Using age ranges 40-80, the number of patients readmitted within 30 days was computed and descriptive and inferential statistics were computed using Microsoft Excel and R.

Results: A total of 3524 patients were admitted for heart failure within the six-month time frame. Of those, 297 were re-admitted within 30 days for heart failure exacerbation (8.39%). An annual estimate was computed (16.86%), well below the national average (21%). Of those re-admitted within 30 days, 50 were readmitted sequentially, on multiple occasions, ranging from two to eight readmissions. The median age was 60 and 60% were male. Due to the skewed distribution (most readmitted twice), nonparametric statistics were used for correlation. While graphic display of charts suggested a trend for multiple readmissions due to diastolic dysfunction and least number due to systolic heart failure, there was no statistically significant correlation between age and number or multiple re-admissions (Spearman rank, p = 0.6208) or number of multiple re-admissions and heart failure classification (Kruskal Wallis, p = 0.2553).

Research

P004. 30-Day Hospital Readmission Rates, Frequencies, and Heart Failure Classification for Patients with Heart Failure

MARGARET HARVEY, YOLANDA BROWN, NP-C, TWONIA GOYER, FNP-BC

University of Tennessee Health Science Center, Memphis, TN

Background: Congestive heart failure (CHF) is the leading cause of mortality, morbidity, and disability worldwide among patients. Both the incidence and the prevalence of heart failure are age dependent and are relatively common in individuals 40 years of age and older. CHF is one of the leading causes of inpatient hospitalization readmission in the United States, with readmission rates remaining above the 20% goal within 30 days. The Center for Medicare and Medicaid Services imposes a 3% reimbursement penalty for excessive readmissions including those who are readmitted within 30 days from prior hospitalization for heart failure. Hospitals risk losing millions of dollars due to poor performance. A reduction in CHF readmission rates not only improves healthcare system expenditures, but also patients’ mortality, morbidity, and quality of life.

Objectives: The purpose of this DNP project is to determine 30-day hospital readmission rates, frequencies, and heart failure classification for patients with heart failure. Specific aims include comparing computed annual readmission rates with national average, determine the number of multiple 30-day readmissions, provide descriptive data for demographic variables, and correlate age and heart failure classification with the number of multiple readmissions.

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Research

P005. Patient Satisfaction with Virtual Heart Failure Care in the Bronx During the Initial COVID-19 Surge

MARIE CALVAO, MSN, ANP-BC, CHFN, NORMA CHRISTIAN, MSN, ANP-BC, CHFN, MUHAMMAD FAROOQ, MD, JEANNE HICKY, MSN, FNP-BC, CHFN, ULRICH JORDE, MD, SNEHAL PATEL, MD, KAILI SALKY, MD, NEWMAN SETH, MD, SABRINA SICILIA

Montefiore Medical Center, Westport, CT; Montefiore Medical Center, Bronx, NY; Lafayette College, Easton, PA

Background: At the epicenter of the COVID-19 pandemic, there was an urgent need to limit the exposure of patients (pts) to SARS-CoV-2, including areas within outpatient medical offices. Nevertheless, high risk heart failure (HF) pts continued to require close management. To overcome this predicament, at our institution pts were asked to stay at home and engage in virtual HF visits (VHFVs) via telephone or video, in lieu of in-office visits (IOVs).

Objective: The purpose of this abstract is to report patient satisfaction with VHFVs during the initial 30 day surge of COVID 19, compared to their satisfaction with IOVs over the preceding 3 months.

Methods: The Montefiore- Einstein Heart Failure service cares for over 4,000 pts who predominantly reside within the Bronx borough, and represent a vulnerable, urban, low socioeconomic population. Our team includes 12 providers consisting of both NPs and MDs. On 3/17/20 all non-urgent IOVs were stopped, and as a work around a virtual platform was created within our electronic medical record system (Epic) to facilitate VHFVs. As of April 1st, all IOVs were converted to VHFVs, with few exceptions.

We retrospectively identified all HF pts (N=502) who engaged in VHFVs (N=609) during the month of April, 2020. Those pts who also had IOVs within the preceding 90 days made up the survey cohort (N=283). A patient satisfaction survey was created in English and Spanish, using a 5 point Likert Scale. The survey was administered by phone, in the subjects’ native language.

Results: The survey was completed by 117 of the 283 eligible subjects (41%), with clinical characteristics as described (Table 1). In 5 of 8 categories of patient satisfaction, pts indicated that they preferred IOVs to VHFVs (Figure 1). IOVs and VHFV were equally ranked in convenience (of time, cost and travel), pts overall tended to prefer IOVs to VHFVs, yet remained open to engaging in future VHFV if necessary.

Conclusion: Even in the setting of a pandemic and despite the convenience (of time, cost and travel), pts overall tended to prefer IOVs to VHFVs, yet remained open to engaging in future VHFV if necessary.
Given the unique situation of the COVID-19 surge during the conduct of this survey, the results may not reflect patient satisfaction during ordinary times.

**Figure 1 and table 1.**

![Figure 1. Survey results](image)

**Table 1 Clinical Characteristics (N=117 subjects)**

| Characteristic | N   | %   | SD  |
|----------------|-----|-----|-----|
| Age            | 59.8 years | 14.79 |
| Sex (male)     | 62  | 53  |
| HFpEF          | 79  | 68  |
| Ischemic etiology | 32  | 27  |
| Atrial Fibrillation | 31  | 26  |
| Diabetes       | 59  | 50  |
| Hypertension   | 89  | 76  |
| ICD            | 49  | 42  |
| S-Creatinine   | 1.37 mg/dL | 0.80 |
| LVEF (mean)    | 27.48 % | 10.06 |
| LVDD           | 6.08 cm | 1.03 |

HFpEF: Heart failure reduced ejection fraction. ICD: implantable cardiac defibrillator. LVEF: left ventricular ejection fraction. LVDD: left ventricular internal diastolic dimension. *calculated for HFpEF subjects only (n=79).

**Research**

**P006. Relationship of Heart Failure PatientCaregivers Mutuality and Preparedness to Caregiving Role Strain and Burden during COVID-19**

LYDIA ALBUQUERQUE, DNP, ACNP-BC, CCRN
William Paterson University, Livingston, NJ

**Background:** The hospitalization rates among Heart Failure (HF) patients has increased from 23% in 2000 to 29% in 2010 necessitating the efforts to improve care and reduce cost (CDC, 2014). This is causing an increase burden on the health care system, families, and the society. At discharge, patients are educated on self-care, which is a non-pharmacological approach towards patients managing their own disease state. Self-care is a difficult concept for most Heart Failure patients to master because it requires adapting to new life-style changes. The caring burden increases as patient’s advance in the disease state. HF patients rely on informal care givers who are family and friends (Hooker, Schmiege, Trivedi, Amoyal & Beleman, 2019).

The sudden transition to the Heart failure patient’s caregiver role can be a social, financial, emotional, and physical strain that effects effective role adaptation. It is important to consider mutuality and preparedness when preparing care givers to their new role. Caregiver mutuality and preparedness can have mediating effects on caregiver role strain and burden over time (Schumacher, Stewart, & Archbold, 2007).

**Methods:** The purpose of this cross-sectional correlational study was to investigate the relationship between Heart failure patient’s caregiver mutuality and preparedness to care giving to role strain and burden. Two hypotheses were tested in this study: 1) There will be a negative relationship between Heart failure patient’s caregiver mutuality and preparedness to caregivers role strain and burden 2) There will be a negative relationship between mutuality and preparedness to caregivers role strain and burden. The Roy Adaptation Model guided this research. The sample consisted of 195 adult Heart failure patient caregivers who participated via Amazon Mechanical Turk (M Turk) a crowd sourcing marketplace for survey participation and data collection. Predictor measures included mutuality and preparedness. Mutuality was measured by the Mutuality Scale and preparedness was measured by the Preparedness for Caregiving Scale. The outcome measure, role strain, was measured by the caregiver’s perception of financial, physical, and social strain, and burden was measured with the Zarit burden scale.

**Results:** This study demonstrated that there was a statistically significant negative relationship between caregiver mutuality and preparedness to role strain, r(195) = .058, p < .001 and a statistically significant negative relationship between caregiver mutuality and preparedness to burden, r(195) = .071, p < .001. These findings indicate that mutuality and preparedness are important predictors of caregiver role strain and burden. The Heart failure certified nurse is positioned to translate the evidence of caregiver role research to the assessment, planning, and evaluation of interventions that can assist the informal caregiver during the dynamic phases of caregiver role adaptation.

**Conclusion:** Assessing the caregiver’s preparation for caregiving, in addition to caregiver mutuality, is an important step in individualizing interventions that will have a positive effect on the role transition to caregiver. Furthermore, individual interventions based on the demand of caregiving will assist in the preparation of the caregiver during the transition to the community setting. This output includes descriptive on the variables, custom tables that display the set of responses for each of your composite variables and a few regressions to explore your states hypotheses.

• **Regression (multivariate): Mutuality and Preparedness vs Strain**
  - R²=.058 (low) and p=.001 (significant)
  - Coefficients:
    - Mutual: -.216 (p=.042) — a negative impact (decreases) on strain (not much, but significant)
    - Preparedness: .435 (p=.000) — a positive impact (increases) on strain

• **Regression (bivariate): Preparedness vs Strain**
  - R²=.042 (low) and p=.002 (significant)
  - Coefficient: .275 (p=.002) — a positive impact (increases) on strain

• **Regression (bivariate): Mutuality vs Strain**
  - R²=.004, p=.600 **NOTE:** Mutuality not statistically significant on its own. Interplay with Preparedness

• **Regression (bivariate): Mutuality and Preparedness vs Burden**
  - R²=.071 (low), p=.001 (significant)
  - Coefficients:
    - Mutual: -.427 (p=.000) – negative impact (decreases) perceived Burden
    - Preparedness: .475 (p=.000) – positive impact (increases) perceived Burden