Transitional Care-APN Guided Care Coordination

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Introduction

Chronic heart failure (CHF) is an epidemic with estimated direct and indirect costs to the United States for 2008 of 34.8 billion (AHA, 2008). CHF is the only cardiovascular disease whose incidence is increasing (Williams, 2009). The most significant factor contributing to the increased incidence of CHF is the increased elderly population. Based on the 44-year follow-up of the NHLBI’s Framingham Heart Study, eighty percent of men and 70 percent of women under age 65 who have CHF will die within eight years (Williams, 2009). As the population ages, the total number of Americans with chronic conditions will rise rapidly. In a recent study of health care in six developed nations, the United States ranked first in health care spending; fifth in quality; and sixth in access, efficiency and equity (Boult, 2009). Much of this spending could be avoided if patients with multiple chronic conditions were monitored regularly, received timely evidence-based ambulatory care, and required fewer hospital admissions (Boult, 2009). In an analysis of the 616,000 Medicare beneficiaries discharged from U.S. hospitals in 2005 with a diagnosis of heart failure, 27% were readmitted within 30 days, 39% within 60 days and almost 50% within 90 days (TCM, 2010). Elderly patients with heart failure have the highest rehospitalization rate of all adult patients groups, with an estimated 24.3 billion cost (Happ, 1997).

The current focus of healthcare today is the episodic acute care treatment of physiologic symptoms and abnormal test results with the restoration of baseline with little emphasis on the prevention, education, support and routine follow up needed. WHO notes “when health problems are chronic, the acute care practice model doesn’t work” (WHO, 2007, p.30). Estimates of adult hospitalization or rehospitalization from home care settings are high, approximately 81% for CHF (WHO, 2007). Patients with fewer numbers of
Transitional care follow up, advanced age and a lack of social support were also considered at increased risk for readmissions (Garcia-Diaz, 2011). New integrative approaches are needed to deliver quality patient care to the chronically ill CHF patient that facilitate effective, timely care with optimal outcomes—maintenance of quality of life and prevention of costly readmissions (Lau-Walker, 2007).

One concept that has shown promise for improving patient outcomes and decreasing hospital readmissions in heart failure patients is transitional care. According to the American Geriatrics Society, transitional care refers to a range of time-limited services and environments designed to ensure health care continuity and avoid preventable poor outcomes among at-risk populations as they move from one level of care to another, among multiple providers, and/or across settings (AGS, 2002). With the contemporary focus on minimizing length of hospital stay, patients are discharged in an intermediate rather than complete stage of recovery (Weiss, 2007). Studies have shown a positive relationship between transitional care and self-reported adherence to healthy diet and exercise (Carlsson, 1997) as well as compliance to medication schedule (Esposito, 1995). Although self care is ultimately an individual patient responsibility, self-care is performed most effectively with the support of clinicians who coach and support patients (Becker, 2004). It would be difficult for a person with a chronic illness as complex as heart failure to master self-care without the guidance of a nurse (Riegal, 2010) According to Naylor (2008), the available evidence suggests that nurses play pivotal roles in ensuring that successful care transition occurs. Most interventions in transitional care are designed to facilitate smoother, safer and more efficient transitions from hospital to the next site of care (another healthcare setting or home) (Boult, 2009). Transitional care is clearly capable of reducing hospital readmission rates and costs (Coleman, 2006). Preventive home visits, chronic disease self-management, caregiver support, transitional care and comprehensive inpatient care can improve patients’ quality of life and functional autonomy (Boult, 2009) Outcomes include fewer
Transitional care unplanned readmissions (Naylor, 2009), longer median event-free survival (Stewart, 2002), reduced mortality rates Phillips, 2004) and lower health care costs (Naylor, 2009).

The purpose of this capstone project was to answer the question ‘Do adults who are admitted with heart failure to an acute care facility who are guided by an APN after discharge have lower readmission rates within 30-days of discharge?’

**Literature Review**

An extensive literature search was performed in the following electronic databases: Cumulative Index of Nursing and Allied Health (CINHAL), Medline, Google Scholar and OVID. The search was limited to peer-reviewed or refereed articles. The publication dates ranged from 2002 to 2012 with the following keywords: chronic heart failure, readmission rates, transitional care, nurse-led intervention, multidisciplinary care, prevention and rehospitalizations. Various combinations of the above keywords were used in an effort to generate additional results.

**Quantitative Research**

Capomolla, et al. (2002) sought to compare the effectiveness and cost/utility ratio between a heart failure (HF) management program delivered by day-hospital (DH) and usual care in chronic heart failure (CHF) outpatients. A total of 234 prospective patients discharged from a HF unit were randomized to two management strategies: n=122 patients to usual community care and n=112 patients to a HF management program delivered by the DH (Capomolla et.al, 2002). The primary outcomes evaluated were rate of readmissions because of hemodynamic instability and cardiac death. Secondary outcome measurements included tailored therapeutic interventions, functional parameters (New York Heart Association (NYHA) functional class, left ventricular diameters, and ejection fraction, deceleration time of early diastolic mitral flow, peak oxygen uptake, and mitral regurgitation. The cost/utility ratios of the two strategies were compared (Capomolla et.al, 2002). DH care included implementation of an
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Individualized HF management program. The staff at the DH consisted of one cardiologist, four trained nurses and two physiotherapists. There was also part-time participation of a dietician, a psychologist, and a social assistant. The team management used current HF guidelines and EBM criteria. With usual care, patients were referred to their primary care physician and cardiologist.

Baseline between-group clinical and functional parameters were evaluated by one-way analysis of variance for continuous variables and by chi-square test for categorical variables revealing no significant clinical or instrumental differences. Their mean LVEF was 29%. (Capomolla et al, 2002). Management outcomes results revealed after 12+/−3 months of follow up, 91 hospital admissions had been required for 56 patients; 78(86%) of the admissions were for community-treated patients, 13(14%) for patients managed by the DH(p<0.00001). after one year, the dosages of both long-and short acting angiotensin-converting enzyme (ACE) inhibitors, nitrates, and beta-blockers were significantly higher in the DH group than in the community group, whereas the dosages for diuretics and digitalis were lower. Functional outcomes revealed community management changes in NYHA functional class (13% improved and 16% worsened, p=NS) and in the DH group, NYHA functional class changed significantly (23% improved and 11% worsened, p<0.009). Hard outcomes noted cardiac death occurred in 17.2% of the community group and in 2.7% in the DH group (p<0.01). Comparison of the two managerial models using COX regression analysis showed that DH management protected against the appearance of hard events (RR, 0.17, CI 0.06 to 0.66). The cost/utility ratio of the two management strategies was similar (usual care$2,409 vs. DH$2,244). The incremental analysis revealed a cost saving of $1,068 for each quality-adjusted life year gained. The cost/utility ratio for the integration of DH management of CHF was $19,462 (CI $13,904 to $34,048) (Capomolla et al, 2002).
In a more recent study, Williams, Akroyd & Burke (2010) sought to ‘evaluate the effectiveness of introducing a transitional care service on readmissions for patients with chronic heart failure (CHF)’. A secondary objective was to assess the impact of this service on length of stay in hospital, and the patient experience of the transitional, nurse-led service. A quasi-experimental approach was employed—the transitional care group and the control group. The transitional care intervention required the clinical nurse specialist (CNS) to identify and recruit patients within 24 to 48 hours of admission to an acute hospital setting in the UK. Once consented, an initial assessment took place followed by the introduction of the transitional care package. The heart failure CNS visited this group of patients regularly in the hospital throughout their admission, during which time they received information on their heart condition in preparation for discharge. The development of the intervention was based on facilitating the transition of the CHF patient from hospital to home (Williams, et.al., 2010). Follow-up arrangements either involved nurse-led clinic visits or home-visits by the community heart failure nurse. The theoretical framework for this intervention was based on Strecher and Rosenstock’s Health Belief Model. “This approach supported these patients and increased their self-efficacy, thereby developing their confidence to make decisions about their health” (Williams, et.al, 2010, p. 1404). A patient questionnaire consisting of mostly closed-ended questions in which patients were asked about their experiences of being treated in hospital and whether they had been provided with sufficient information before they left the clinic was used as a post intervention measure. Demographic details, information on readmission rates and length of stay were obtained from the patient administration system and health information records (Williams, et.al, 2010). Data was analyzed using SPSS (version 15). Results revealed 36 completed questionnaires were returned from a total of 47 (response rate 76.6%). At 30 days prior
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to completion of the study, readmission rates were 14% (7/50) of patients in the control group and 8.5% (4/47) in the transitional care group (P=0.526). At follow-up, one patient (2.1%) had been readmitted via the nurse-led clinic and four readmissions (8.5%) had been prevented via the nurse-led clinic. Difference of length of stay for both groups almost achieved statistical significance (P=0.06). The results showed that the experience of the discharge process and follow-up care provided was valued by the transitional care group (Williams, et. al, 2010). A limitation of the study identified by the authors was the small sample size.

Kasper, et al. (2002) sought to determine whether a multidisciplinary outpatient management program decreases chronic heart failure (CHF) hospital readmissions and mortality over a six-month period. Two hundred patients hospitalized with CHF at increased risk of hospital readmission were randomized to a multidisciplinary program or usual care. The intervention team consisted of a cardiologist, a CHF nurse, a telephone nurse coordinator and the patient’s primary physician. The CHF nurse followed an algorithm to adjust medications and contact with the patient was on a prespecified schedule. Results revealed 43 CHF hospital admissions and 7 deaths in the intervention group as compared with 59 CHF hospital admissions and 13 deaths in the nonintervention group(p=0.09) (Kasper et.al, 2002). The quality of life score, percentage of patients on target vasodilator therapy and percentage of patients compliant with diet recommendations were significantly better in the intervention group. Cost per patient was similar in both groups. The authors concluded that “a six-month, multidisciplinary approach to CHF management can improve important clinical outcomes at a similar cost in recently hospital high-risk patients with CHF” (Kasper et. al, 2002, p. 471). Limitations identified were that the program was multidisciplinary and not able to analyze the relative contributions of its
various components and usual care was not strict in the sense that recommendations for care
from experts in CHF were made to follow up physicians on discharge.

Inglis, et al (2006) studied the effects of a nurse-led, multidisciplinary, home-based
intervention (HBI) in a typically elderly cohort of patients with chronic heart failure (CHF)
initially randomized to either HBI (n=149) or usual postdischarge care (UC) (n=148). After a
short-term hospitalization the patients were studied for up to 10 years of follow-up (minimum
7.5 years of follow-up). The study end-points were all-cause mortality, event-free survival (event
was defined as death or unplanned hospitalization), recurrent hospital stay, and cost per life-year
gained (Inglis et. al, 2006). The study cohort included two related randomized controlled trials of
nurse-led multidisciplinary HBI in Adelaide, South Australia. Patients assigned the HBI received
the same level of care as those assigned UC plus the prospectively designated study intervention.
HBI included a structured home visit within 7 to 14 days of discharge, by a nurse and a
pharmacist, or by a qualified cardiac nurse. Those patients with problems managing their
medications were referred for long-term support by their community pharmacist. Those with
signs of clinical deterioration were immediately reviewed by their cardiologist or primary care
physician. All patients were subject to telephone follow-up over 6 months to ensure that patients
were receiving appropriate levels of support. With the use of regional, computerized medical
record system and death registry, all inpatient and outpatient hospital activity and fatal events
were recorded for each patient from the time of study recruitment until December 21, 2005 for
surviving patients. All data was analyzed with the use of SPSS (version 12). Results revealed
overall statistically fewer patients in the HBI group compared with UC died during this period:
114(77%) vs. 132(89%); p=0.0006. Median survival in the HBI cohort was almost twice that of
UC (40 vs. 22 months), and, on adjusted analysis, HBI was associated with a 40% reduction in
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the risk of a fatal event over the duration of study follow up (p<0.0001). HBI was associated with a significant increase in event-free survival relative to UC: a median of 7 vs. 4 event-free months (p=0.0144). On average, HBI patients experienced 198 more days of hospital–free survival than UC patients (1448+/− 1187 vs. 1010+/−999 days; p=0.001). HBI patients accumulated fewer unplanned readmissions during the short (6 to 12 months) to medium (1 to 4 years) term with slightly lower average length of stay (Inglis et.al, 2006). The cost-benefit of HBI was estimated to be AU $ 1729 per additional life-year gained. The authors conclude “whatever the benefits derived from HBI, their effect (at least in terms of hospital activity) appears to be limited to ~ 5 years before a new cycle of potential deterioration begins to emerge” (Inglis et.al., 2006, p.2472).

Hernandez et al. (2010) sought to examine associations between outpatient follow-up within 7 days after discharge from a heart failure hospitalization and readmission within 30 days. The study design was observational analysis of patients 65 years or older with heart failure and discharged to home from hospitals participating in the Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients With Heart Failure and the Get With the Guidelines –Heart Failure quality improvement program from January 1, 2003 through December 31, 2006 (p. 1716). The main outcomes measure was all-cause readmission within 30 days after discharge. The study population included 30,136 patients from 225 hospitals. Statistical analysis presented hospital-level rates of early follow-up with interquartile ranges. Patients and hospitals were grouped by quartiles of hospital rates of follow up. Cox proportional hazards models were used to examine unadjusted and adjusted relationships between hospital-level early follow-up and 30-day readmission. Results revealed that in the first 30 days after discharge, 6428 patients (21.3%) were readmitted. Unadjusted 30-day readmission rates were highest among patients in hospitals
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in the lowest quartile of early follow-up (23.3% readmission). After adjustment for baseline
patient characteristics of the index hospitalization, there was an inverse relationship between
early follow-up and the hazard of 30-day readmission (Hernandez et.al, 2010). “Despite the high
risk of readmission among patients hospitalized for heart failure, most patients in this study did
not visit a physician within a week of discharge”( Hernandez et.al, 2010). The authors go onto
suggest that “models of care that include nurse practitioners or physicians assistants under
physician supervision may result in increased access and timeliness of care. Early follow-up is a
potential measure of quality that can be integrated into heart failure performance measure sets
and targeted by national incentives” (Hernandez et.al, 2010).

Naylor et al. (2004) conducted a randomized, controlled trial to ‘evaluate the
effectiveness of a transitional care intervention delivered by advanced practice nurses (APNs) to
elders hospitalized with heart failure’. It was the “first multisite assessment of a transitional care
intervention targeting the comprehensive set of serious health problems and risk factors common
in elders throughout an acute episode of heart failure”(p.676). The study sample consisted of 239
patients aged 65 and older and hospitalized with heart failure admitted to 1 of 6 Philadelphia
academic and community hospitals randomized to control or an intervention group. The
intervention consisted of a 3-month APN-directed discharge planning and home-follow up
protocol consisting of an initial visit within 24 hours of index hospital admission, APN visits at
least daily during the index hospitalization, at least 8 APN home visits, weekly visits during the
first month, bimonthly visits during the second and third month additional APN visits based on
patient need, and APN telephone availability 7 days per week (structured hours). Outcomes data
were gathered by research assistants blind to study aims and groups via standardized patient
telephone interviews at 2,6,12, 26, and 52 weeks after index hospital discharge to obtain
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information about rehospitalizations and unscheduled acute care visits to physicians, clinics and emergency departments; quality of life (using the Minnesota Living with Heart Failure questionnaire); and functional status (measured using the Enforced Social Dependency scale). Results revealed time to readmission or death was longer in intervention patients (p = .026; Cox regression incidence density ratio = 1.65, 95% CI = 1.13-2.40) and lower total mean costs ($7,636 vs. $12,481, p = .002). For intervention patients only short-term improvements were demonstrated in overall quality of life (12 weeks, p < .05), physical dimension of quality of life (2 weeks, p < .01; 12 weeks, p < .05) and patient satisfaction (assessed at 2 and 6 weeks, p < .001) (Naylor et al., 2004). The authors subsequently concluded that a comprehensive transitional care intervention for elders hospitalized with heart failure demonstrated “great promise for improving clinical and economic outcomes” (Naylor et al., 2004, p. 675).

Qualitative Research

McCauley, Bixby & Naylor (2006) researched whether the APN strategies focusing on improving patient or caregiver effectiveness in managing their illnesses, strengthening the patient-provider relationship, and managing comorbid conditions while improving overall health would be effective. This publication is an extension to a previous RCT on transitional care with elders with HF. The original analysis of this research did not include detailed identification of the strategies that the APNs used with the 118 intervention patients to achieve improvement in outcomes of prevention of hospitalizations, and reduction in costs when compared with usual care (McCauley et al., 2006). Summary case studies from the original research comprised the data sources for this report. Analysis revealed that APN intervention focused on three domains: patient and family caregiver effectiveness; the patient-provider relationship; and management of comorbid conditions and improving overall health. The authors identify that “APN
Transitional care effectiveness may be related to their knowing their patients as individuals, developing an understanding of how patient goals will motivate them to learn to care for themselves more effectively and to persist in effective self-management over time, and improving patient-provider communication” (McCauley et al., 2006, p306-307). From this analysis, the study authors identified other strategies that may relate to successful outcomes and warrant future research—identification of the patients’ unique goals and connecting achievement of these goals to health-related behaviors, support of the patient physicians as partners in designing the optimum treatment plan, and educational strategies used—supermarket visit to teach label reading and healthy food choices, giving patients audiotapes of the teaching session” (McCauley et al., 2006, p. 307).

**Synthesis of the Literature**

In review, CHF is a growing health concern and the most common reason for hospitalization in patients older than 65 years (Centers for Disease Control and Prevention, 2005). Only recently, have studies begun to focus on chronic management and prevention of hospital readmission. Early follow up as well as coordinated care with a multidisciplinary team have been identified as important to prevent rehospitalizations and improve health outcomes. Even more recently, the research has begun to identify the advanced practice nurse (APN) as a solution to the feasibility of early follow up and management of the CHF patient. McCauley, et al. (2006) expanded on the research with identification of APN strategies to lead to improvement in outcomes of prevention of hospitalizations, and reduction in costs when compared with usual care. Analysis revealing strategies such as patient and family/caregiver APN interventions, patient goals as key motivator, family and community resources, strategies to strengthen the
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patient-provider relationship and management of comorbid conditions and improving overall health as indicators for successful transition.

Theoretical Framework

The theoretical framework to guide this project was the emerging middle range theory of the transition experience. Meleis (2010) suggests the beginning of the theory of transitions developed from the potential problems that individuals may experience if they are not properly prepared for a transitional experience (role insufficiency), and the evolvement of preventative as well as therapeutic intervention (role supplementation). An expanded theoretical framework developed from Meleis’s collective research consisted of: “types and patterns of transitions, properties of transition experiences, transition conditions: facilitators and inhibitors, process indicators, outcome indicators and nursing therapeutics” (Meleis et. al, 2000, p.15).

“Transitions are triggered by critical events and changes in individuals or environments” (Meleis, 2010, p.11). The transition experience is initiated as soon as an event or change is anticipated. Nurses become part of the transitional experience when it pertains to health, well-being and the ability to care for self (Meleis, 2010). “Changes in health and illness of individuals create a process of transition, and clients in transition tend to be more vulnerable to risks that may in turn affect their health” (Meleis, Sawyer, Im, Messias & Schumaker, 2000, p. 12).

The type of transition that is central to my capstone project is the health/illness transition specific to the CHF patient on hospital discharge to home. Within this framework, Riegel’s situation specific theory of health transition: self-care of heart failure is most applicable. Key concepts in the conceptual model are self-care maintenance and self-care management to
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comprise the behaviors of symptom monitoring, treatment adherence and decision making (Riegel & Dickson, 2010). Symptom monitoring is important for recognizing and interpreting symptoms. Treatment adherence is a component of self-care and involves following the advice of providers to follow the treatment plan. Decision making in response to symptoms is the key element of self-care management. (Riegel & Dickson, 2010, p. 321). See appendix A for an illustration of Riegel’s conceptual model. “Within the transition framework ‘caring’ would be seen as a process that facilitates successful transitions that is not bound by a medically determined beginning and ending of an event” (Meleis & Trangenstein, 1994, p.255).

Design

This program used a pre-test post-test one group quasi experimental design to evaluate the effectiveness of a transitional intervention. The Riegel’s Self-Care of Heart Failure Index questionnaire was administered at 5 days post discharge and 30 days post discharge. The theoretical framework to guide this project was the emerging middle range theory of the transition experience (Meleis, 2010). The type of transition that was central to this capstone project was the health/illness transition specific to the CHF patient on hospital discharge to home.

Setting

The setting initially began within JFK Medical Center- immediately prior to discharge and extended to a large private cardiology office practice Medical Specialists of the Palm Beaches in Atlantis, Fl. JFK Medical Center is a for profit 460-bed acute care medical/ surgical facility and healthcare complex specializing in cardiovascular services. Medical Specialists of
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the Palm Beaches Cardiology is a multiple provider single specialty non-interventional practice which is a part of a larger integrated health care corporation.

Participants

The participants were 10 English –speaking adult patients over the age of 65 with an acute exacerbation of chronic heart failure admitted to JFK Medical Center in Atlantis, Florida at high risk for readmission. Participants were insured with Medicare as primary or private PPO in an effort to avoid the possibility of inability to continue due to difficulty with obtaining referrals.

Procedure

Initially, a letter of support from MSPB cardiology for implementation of the program was obtained. Patients on admission to JFK Medical center with an acute exacerbation of CHF patients were asked by the consulting cardiologist if they would like to participate in a transitional care program implemented by the APN upon discharge to home. As these patients were a part of the existing cardiology practice it was stipulated that their decision to consent or not consent would in no way affect their ability to obtain usual care.

Patients who agreed were then visited by the APN at JFK medical center for further clarification/review of the program. Time was allotted for the patient to ask questions. Consent forms were signed by the patient without coercion-the patient was assured that failure to consent will not affect their usual cardiology care. An additional consent was obtained to allow access to their medical records for chart review.
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Following obtaining informed consent, the care coordination program was initiated which included an initial phone call within 24 hours of discharge to discuss their health status, answer any questions with an emphasis on their understanding of the discharge instructions particularly the prescribed medications as well as symptom recognition necessitating the intervention. An office follow up visit within 5 days of discharge was scheduled at which time the initial administration of Riegal’s Self- Care of Heart Failure Index (SCHFI) questionnaire was implemented. “The SCHFI takes about 5 minutes to complete” (Riegal, 2004, p. 353).

The initial office visit time often lasted up to forty five minutes at which time in addition to a complete cardiovascular focused physical assessment there was emphasis on the translation of the discharge instructions. Additionally, there was evaluation patient’s understanding of the disease process of CHF. The signs and symptoms of CHF that necessitated early intervention were identified with emphasis on the necessary steps to prevent the need for rehospitalization. Extensive medication reconciliation was performed including the patient’s understanding of changes in medication dosing, brand versus generic names and adherence with medication was a priority. The patient’s ability to afford co-payments was assessed, as well as issues surrounding prescription coverage and formulary restrictions were identified. as well as inquiry to the feasibility of obtaining the medications. Often less expensive options were identified with an effort to allow the patient the ability to have the necessary medications and prevent unnecessary hospital readmissions. Dietary modifications were also emphasized as a way to prevent CHF exacerbations.

A second in office visit follow up within 2 weeks was scheduled as a way to carefully monitor the patient’s status particularly during this time of increased risk of readmission. In select circumstances of particular high risk a second office visit occurred within 1 week. A
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minimum office visit time of 30 minutes was allotted with these patients at which time in addition to physical assessment of their health status there was significant focus on their ability to self monitor their status particularly with weight monitoring, and symptom recognition. Again, their own ability to intervene when symptoms were recognized with interventions such as sodium restrictions, fluid restrictions as well as administration of prn diuretics. After careful review of their weight logs as compared to their symptomology and physical signs an individualized plan of action was developed with the patient for a plan of action. For example, they would have a plan for an extra diuretic dose or a booster add on that would be taken when they reached a certain weight.

Availability of telephone support during office hours and as necessary with the on call physician was emphasized throughout this process.

At approximately 30 days another office visit was again scheduled at which time the repeat questionnaire was again implemented in addition to physical assessment, further education and reinforcement of their individualized plan of care with emphasis on prevention of CHF, as well as the recognition of signs and symptoms of CHF. Documentation of any rehospitalizations in the last 30 days occurred with an emphasis on determining diagnosis on admission.

**Evaluation**

The instrument used to measure outcomes was Riegel’s Self-Care of Heart Failure Index (SCHFI). This is a self-report measure comprising 15 items divided into 3 subscales. The SCHFI measures self-care maintenance, self-care management, and self-care confidence. It was initially developed as a “criterion-referenced measure or performance test to measure a level of
Transitional care achievement in self-care maintenance and management” (Riegel, 2004, p.352). The theoretical framework for the model is based on ‘naturalist decision making’ which “addresses how people make decisions in real-world settings” (Riegel et.al, 2004, p.351). The four central concepts in naturalistic thinking include: a. focusing on process rather than outcome b. using decision rules that match the situation and the action c. letting context influence decision-making, and d. basing practical decisions on the empiric information available at the moment (Riegel, 2004).

In naturalistic decision making experience influences behavior. The key concept in naturalistic thinking in CHF is symptom recognition. The underlying assumption of the model is that if CHF patients are to be successful at self-care, they must follow health behaviors to maintain physiological stability-self-care management. As self-care maintenance and management improve, confidence in the ability to maintain control of self-health and treatment regimen improves (Riegel, 2010).

**Method of Data Analysis**

Descriptive and inferential statistical analysis inclusive of paired t-test was computed on SPSS version 20. These statistical analyses were utilized to evaluate the effect of a transitional care program with APN coordinated care following CHF admission have lower readmission rates.

**Results**

The demographics of the sample for this project demonstrate that 50% of the sample were male and 50% were female (figure 1). The average age of the sample population was 79.8 years. The etiology of CHF diagnosis in 60% of the population was systolic failure and 40% was diastolic (figure 2). 50% of the population was married and 50% were widowed (figure 3). To
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measured the effect of transitional care-APN coordinated care on the patient’s ability to perform self care of heart failure. The pretest scores and posttest scores were compared using paired t tests. The mean score on the pretest was 29.3. The mean score on the post test was 41.2. There was a statistically significant difference in the scores between pre test and post test with the post test scores being higher ($t=5.3$, $df=9$, $p = .001$). This represents a statistical significance in the measure of self care knowledge of CHF in the participants within the transitional care –APN guided care program as they had statistically higher knowledge scores in the post test evaluation.

![Gender Pie Chart](image1)

**Figure 1**

![CHF Etiology Pie Chart](image2)

**Figure 2**
**Discussion**

This capstone project created a transitional care program for the high risk for readmission CHF patient in an effort to prevent costly rehospitalizations. It involved the initial identification of the at risk patient in hospital by the cardiologist at which time initiation of the project occurred before discharge. The patient was initially consented in the hospital prior to discharge at which time the clarification of discharge instructions began with a quick 24 hour follow up phone call. An initial office visit would then occur within 5 days or sooner at which time 45 minutes would be devoted to physical assessment of the patient, as well as extensive focus on understanding of the discharge instructions, medication reconciliation, symptom recognition as well as plans for early intervention in an aim to prevent rehospitalization. Followup visits were then scheduled at a minimum of 2 weeks & if necessary weekly to monitor the patient’s status & progress. As the visits continued the focus shifted towards intervention and an individualized plan of action for that particular patient. Telephone support was also available throughout this process. It is also important to note that these particular patients are still followed regularly within the cardiology practice upon completion of the 30 day period. The evaluation tool for the project - Riegel’s Self-Care of Heart Failure Index was also administered with each patient at the initial visit and the 30 day visit.
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The author notes that the patients did express positive feedback with the program and the individualized attention with availability of support. These patients continue to request frequent follow up and monitoring with the APN in the practice. A limitation within the program is the avoidance of patients with particular restricted managed care plans in an effort to prevent loss to follow up participants and data collection. There exists a significant need with this patient group that would benefit from a transitional care program for the CHF patient.

Interestingly, there is not a designated CHF clinic in Palm Beach County in existence or a cardiologist with a designated CHF specialization. The APN is in a position to implement and lead an intervention - the transitional care program to facilitate quality of life for the patient living with congestive heart failure and impact the burden of chronic congestive heart failure on healthcare today. This is a great opportunity for APNs.

**Conclusion**

The purpose of the Transitional Care-APN Guided Care Coordination capstone project was to answer the question ‘Do adults who are admitted with heart failure to an acute care facility who are guided by an APN after discharge have lower readmission rates within 30-days of discharge?’ This program used a pre-test post-test one group quasi experimental design to evaluate the effectiveness of a transitional intervention. The instrument used to measure outcomes was Riegel’s Self-Care of Heart Failure Index (SCHFI). The participants were 10 English –speaking adult patients over the age of 65 with an acute exacerbation of chronic heart failure admitted to JFK Medical Center in Atlantis, Florida at high risk for readmission. There was a statistically significant difference in the scores between pre test and post test with the post test scores being higher (p = .001). The program was shown to be
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beneficial as there was statistical significance in the measure of self care knowledge of CHF in the participants within the transitional care –APN guided care program as they had statistically higher knowledge scores in the post test evaluation.
References

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