


5-2016

The Effects of Patient Education and Knowledge of CHF Patients As Evaluated by the PakSAC Survey

Nabil Tovar

University of Arkansas, Fayetteville

Follow this and additional works at: <http://scholarworks.uark.edu/nursuht>

 Part of the [Cardiovascular Diseases Commons](#), [Cardiovascular System Commons](#), [Geriatric Nursing Commons](#), [Medical Education Commons](#), and the [Public Health and Community Nursing Commons](#)

Recommended Citation

Tovar, Nabil, "The Effects of Patient Education and Knowledge of CHF Patients As Evaluated by the PakSAC Survey" (2016). *The Eleanor Mann School of Nursing Undergraduate Honors Theses*. 49.
<http://scholarworks.uark.edu/nursuht/49>

This Thesis is brought to you for free and open access by the The Eleanor Mann School of Nursing at ScholarWorks@UARK. It has been accepted for inclusion in The Eleanor Mann School of Nursing Undergraduate Honors Theses by an authorized administrator of ScholarWorks@UARK. For more information, please contact scholar@uark.edu, ccmiddle@uark.edu.

Abstract

After diagnosis, management of congestive heart failure (CHF) can pose quite a struggle to many patients, since it requires that lifestyle changes be implemented into their daily life. Patients require the sufficient knowledge and education in order to best manage symptoms and improve their quality of life after being diagnosed. Use of Patient Knowledge of Self-care activities in Congestive Heart Failure[®] (PaKSAC) survey in transitional care programs could identify patient gaps in knowledge, as well as decreasing acute care service use. The purpose of this research study was to investigate the knowledge level of CHF patients at the time of discharge from their initial hospitalization using the PaKSAC questionnaire.

The following research question was addressed: Describe the patients' responses to the PaKSAC questionnaire and identify gaps of knowledge. This study was initiated following approval of the University of Arkansas and the study hospital Institutional Review Boards. This simple descriptive study will use secondary data analysis performed on 21 subjects, which completed a transitional care project. The study population consisted of New York Heart Association (NYHA) functional class II and III patients, 18 years of age and older, with the primary diagnosis of CHF, discharged from the hospital to home. This descriptive study examined the various domains of knowledge related to lifestyle habits that can exacerbate symptoms, dietary considerations, activity level, and identification of warning signs and symptoms in the CHF patient. The PaKSAC survey was administered following discharge from the hospital. All patient information was de-identified following the Health Insurance Portability and Accountability Act (HIPPA) guidelines and reported in the aggregate. Univariate statistics was used to characterize the data obtained using the PaKSAC survey. The PaKSAC survey results were analyzed according to the domains related to knowledge about CHF, signs and

symptoms, self-care, and self-care confidence (Appendix A). This study provides findings on the knowledge deficit that is a pressing issue found in CHF patients. Study results lead to the conclusion that discharge planning and continued post-discharge education is extremely important for this population.

Acknowledgments

Contributions were made to this research by Nan-Smith Blair, PhD, RN, FNAP as the faculty mentor. Carol Agana, MSN, RN, and Jaye Henderson, MSN, RN gave assistance through serving as thesis committee members.

Review of Literature

Congestive heart failure (CHF) has been increasing steadily in prevalence in the United States over the past few years, resulting in millions of dollars spent on healthcare at the national level (Aroll, Doughty & Andersen, 2010). With every passing year, an estimated 550,000 new patients are diagnosed with CHF, adding to the already existing population of 5.2 million Americans diagnosed with this condition (Evangelista & Shinnick, 2010). CHF can be defined as a clinical syndrome, which results in reduced cardiac output, decreased tissue perfusion, and pulmonary congestion (Aroll et al., 2010). The most commonly used classification system for CHF is the New York Heart Association Functional Classification (NYHA) (American Heart Association, 2015). The classifications are defined with Class I patients in which there is no limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea (shortness of breath) Class II patients have slight limitations of physical activity. However, they are comfortable at rest. Fatigue, palpitation, and dyspnea develops with ordinary physical activity. Class III patients demonstrate marked limitation of physical activity. Although they are comfortable at rest, minimal activity causes fatigue, palpitation, or dyspnea. Class IV patients are unable to carry on any physical activity without discomfort and demonstrate symptoms of heart failure at rest. If any physical activity is undertaken, discomfort increases (American Heart Association, 2015). Because of the vast amount of research that has been dedicated to this condition, there has been significant advancement in treatment options (Evangelista & Shinnick, 2010). Nevertheless, even with these expanded treatments available to patients, the prognosis for survival after diagnosis is estimated to be roughly around three years (Aroll et al., 2010). Learning to manage CHF presents a challenge not only for providers, but also for the patients themselves (Albert et al., 2015).

After the initial diagnosis of CHF, patients must learn to manage their heart failure, to conserve their quality of life, but also to limit and prevent exacerbation of severe and potentially life-threatening symptoms (Leppin et al., 2014). Examples of symptoms include exercise intolerance, fluid retention, swelling, and dyspnea at rest. (Piña et al., 2003). In order to properly manage CHF, patients must learn to develop and actively implement self-care behaviors (Aroll et al., 2010). Although the definition for self-care behavior varies, for the purpose of this study, self-care behavior is defined as the behaviors or habits individuals implement into their life, with the goal of improving their overall health, well-being, and symptoms (Evangelista & Shinnick, 2010).

Patients with a CHF diagnosis undergo complex medical treatments, as well as lifestyle adjustments, which impact not only them, but also their families and/or caregivers (Blauer, Frei, Schnepf, & Spirig, 2015). The key to maintaining optimal health and well-being for patients with a chronic condition like CHF is through management of the disease with appropriate self-care behavior and lifestyle changes (Rafii, Shahpprian, & Azarbaad, 2008). The primary therapeutic goal for CHF patients is the maintain their ability to experience the best possible quality of life, as well as be able to participate in daily activities as independently as possible (Blauer et al., 2015). This can be a very difficult task for a majority of patients because it requires time, active participation, knowledge, lifestyle change implementation, and cooperation to adhere to their individual treatment regimen (Aroll et al., 2010). Poor health literacy is also a prominent issue found in the older adult population (Evangelista & Shinnick, 2010). Many patients do not fully comprehend that medication adherence is essential to adequately manage CHF (Leppin et al., 2014). Moreover, implementation of self-care activities and healthy lifestyle changes in conjunction with medication adherence will allow them to better reach their treatment

goals (Leppin et al., 2014). Self-care activities often included in a treatment regimen include monitoring daily weight, following a sodium restricted diet, implementing exercise into their lifestyle, medications compliance, and daily monitoring of their blood pressure (Evangelista & Shinnick, 2010). These activities require both discipline and active involvement from patients and/or their designated caregiver to be successful. Health care providers incur resistance and hesitance to habit changes, as behaviors require lifestyle modifications (Evangelista & Shinnick, 2010). Patients must understand that choosing not to adhere to their treatment regimen placed them at risk of exacerbation of symptoms, which can lead to readmission to the hospital (Albert et al., 2015).

Although hospital treatment may be required to stabilize a patient's condition, education and knowledge after discharge has been shown to play a significant role in the overall prognosis of the patient (Leppin et al., 2014). Although vast educational resources are available related to congestive heart failure, the majority of patients do not retain and implement this knowledge into the daily management of their condition (Evangelista & Shinnick, 2010).

Inadequate or ineffective discharge education and instructions by healthcare professionals can also place the patient at risk. (Andrietta, Moreira, & Barros, 2011). The patient goals for education during hospitalization should be expanded to encompass the patient's knowledge of CHF and self-care behaviors to incorporate into their daily routine to allow them to manage their condition to the best of their ability (Evangelista & Shinnick, 2010). Effective education allows patients to recognize when CHF symptoms increase in severity and when to seek medical attention (Albert et al., 2015). If a patient fails to recognize these symptoms, other life-threatening health complications such as stroke or organ failure may occur (Albert et al., 2015). The healthcare team should include the patient's family and/or caregiver in the teaching process.

These individuals will provide a support system in the patient's everyday life, and should require sufficient knowledge to actively participate in healthcare and to aid the patient in disease management (Blauer et al., 2015). The caregiver can play a key role in early symptom recognition and intervention during exacerbations and potentially avert re-hospitalization (Blauer et al., 2015).

An innovative approach to transitional care using a student team has been developed to evaluate post hospital discharge knowledge and assessment of knowledge following 14 weeks of home visits. The Patient Knowledge of Self-care Activities in Congestive Heart Failure (PaKSAC) survey was developed by the Epidemiology Coordinating and Research Centre (EPICORE) from the University of Alberta (EPICORE Centre, 2003). This survey assesses patient's knowledge in identifying self-care behaviors needed to manage CHF including identification of lifestyle habits that can exacerbate CHF symptoms, diet restriction, activity level, and identification of signs and symptoms that require notification of a physician/nurse.

Purpose of the Study and Research Question

The purpose of this research was to describe the knowledge level of CHF patients at the time of discharge to home and to identify gaps in knowledge in the various domains assessed by the PaKSAC questionnaire.

Methodology

This descriptive study is based on secondary data analysis project initiated following approval from the University of Arkansas and the study hospital Institutional Review Boards under a pilot project directed by Dr. Smith-Blair. The study consisted of analysis of 21 subjects, which completed a student led transitional care project. Study participants were over the age of 18, had recently been discharged from the hospital with the primary diagnosis of CHF of either NYHA II

or III. All participants were alert and oriented, were able to speak/write in English, not receiving home health services, and resided within Washington or Benton counties of Northwest Arkansas. Patients receiving renal dialysis or were discharged to a long-term care facility, skilled care, hospice were excluded from the study. Descriptive statistics were used in this study to summarize various domains of knowledge related to lifestyle habits that can exacerbate symptoms, dietary considerations, activity level, identification of worsening of signs and symptoms of the CHF. The PaKSAC survey was administered following discharge from the hospital. All patient information was de-identified following the Health Insurance Portability and Accountability Act (HIPPA) guidelines and reported in the aggregate.

Statistical Analysis

Univariate statistics was used to characterize the data obtained using the PaKSAC survey. Simple summaries about the sample and observations will be reported as percentage to describe multiple discrete domains of the PaKSAC questionnaire.

Results

A total of 44 patients signed consents to enter the study. Twenty-one patients completed the pre- and post- PaKSAC surveys. Of the 21 patients completing the survey, 84.8% knew they had been diagnosed with congestive heart failure. Surprisingly 90.5% of the patients had never been to a CHF class and although all of the study patients were seen in the CHF clinic, 33.3% denied ever having been seen in a heart failure clinic.

The PaKSAC survey results were analyzed according to domains related to knowledge about CHF, signs and symptoms, self-care, and self-care confidence. (Appendix A).

Management Interventions

Several questions addressed patients' knowledge on interventions associated with management of their CHF. When asked to identify various interventions that would aid in their CHF management, participants identified important interventions as restricting salt intake (66.7%), exercising daily (48.5%), adhering with medication regimen (45.5%), restricting fluid intake (36.4%), weighing daily (36.4%), taking a rest daily (30.3%), and abstaining from smoking (27.3%) and alcohol (21.2%). Surprisingly 18.2% of the participants could not identify an intervention that would benefit their management.

Further examination of interventions revealed that the majority of participants knew that it was safe for someone with heart failure to perform light exercise such as walking (84.8%). Likewise, participants also knew that periods of rest were good for their heart (90.9%). Additionally, participants were able to identify that alcohol and smoking could weaken their heart's pumping ability.

Fluid Restriction

Approximately 91% of participants rated fluid restriction to be either just as important as taking their medication (27.3%) or more important than taking their medications (63.6%). Additionally, the majority of participants (50.0%) knew they should be consuming less fluids than usual and had taken steps to limit their fluid intake in the previous 6 months. Only 18.2% of participants thought they should not make any changes in their fluid intake. Of those that knew they should limit their fluid intake, 31.8% felt fluid restriction was difficult while 22.7% stated that it was not difficult to limit their fluid intake. Reasons participants identified fluid restriction as difficult included that their mouth was always dry (9.1%), they always felt thirsty (18.2%), and 4.5% stated it was hard to understand how to limit fluid intake. However, when

asked how many cups of fluid a patient with CHF should have in one day, only 27.3% of the respondents could correctly identify the appropriate amount (4-8 cups). It is important to note that 59.1% of the responses were missing in this question.

Daily Weights

The majority of patients (90.9%) stated they had a scale at home that worked correctly. The majority of respondents felt weighing themselves daily was as important as taking their medications (63.6%) or just as important as taking their medications (22.7%). The majority of respondents (86.4%) also knew to contact their healthcare provider for a weight gain of 4 pounds or more within 2 days. Although they appeared to have the knowledge and recognized the importance of weighing daily, 9.1% of respondents indicated they only weighed themselves several times a week or monthly (4.5%).

Sodium-Restricted Diet

The majority (90.9%) of respondents reported that patients with heart failure should consume less salt. The majority (63.6%) of participants responded salt restriction was either more important or just as important as taking their medication for heart failure. However, only 31.8% could identify that the daily sodium consumption should stay under 2 grams and 31.8% thought they just shouldn't sprinkle any extra salt on their food. Almost one third (31.8%) of participants stated that they didn't know the correct amount of sodium they should consume daily.

When asked if they had taken specific steps were taken over the past 6 months to eat low sodium foods, the majority (86.4%) stated they had, and 50% of those felt a low sodium diet was not difficult to follow. However, 31.8% found following a low sodium diet difficult to follow as it didn't taste good (22.7%), that it was hard to find foods low in sodium (13.6%), that low

sodium foods were expensive (4.5%), that it took too much time to adhere to (4.5%), that it was difficult to eat out because of the restriction (4.5%), and it was hard to understand the low sodium diet instructions (4.5%).

To address the knowledge of food contained in a low sodium diet, participants were asked to select foods from a list and indicate if they contained significant amounts of sodium. The majority of participants identified hot dogs and canned vegetables (86.4%), pickles (81.8%), canned soups (81.8%), Kraft™ dinners (77.3%), instant noodles (77.3%), cheddar cheese (68.2%), and tomato juice (59.1%) as high sodium content foods. Respondents identified vinegar (50%), coffee (50%), bananas (54.5%), and canned fruits (36.4%) also contained significant sodium content.

Self-Care Confidence

Several questions addressed the patients' self-care confidence.

The majority of participants (54.5%) were able to correctly able to select the correct definition of heart failure. However of the 45.5% of patients who could not correctly define heart failure, with a variety of definitions where chosen. Twenty four percent of participants noted they didn't know the definition of HF. When asked about their confidence in managing CHF, 66.7% of patients felt they knew what they needed to do in order to keep their heart failure under control. Likewise, the majority of patients (63.6%) knew how to monitor their heart failure and detect any problems before they became serious. Interestingly, although 51.5% of the patients reported they knew how to make themselves better if their heart failure became worse, 54.6% felt if their heart failure was becoming worse, they would call their doctor or nurse right away.

Self-Care

Several questions addressed patients' views of their heart failure medications.

Patients (79%) stated that without their heart failure medications, they would be very ill. Additionally, patients (69.7%) felt their health in the future depended on their heart failure medications although 42.4% of patients stated that their drugs were a mystery to them. An additional 33.3% of patients didn't know if their future depended on taking their medications.

Signs and Symptoms

Several questions addressed the patients' knowledge on recognizing signs of symptoms associated with CHF. Although dyspnea is commonly seen in patients with CHF, 54.6% of the patients in this study stated they did not associate their shortness of breath and fatigue with their diagnosis of CHF. CHF symptoms identified included fatigue (51.5%), edema (36.4%), and chest pain (24.2%). Twenty-one percent of participants could not identify any symptoms of heart failure.

Participants were also asked to ascertain which sign or symptoms indicated that their heart failure was worsening. Of those who responded shortness of breath (69.7%), swelling of the legs and ankles (57.6%), nocturnal dyspnea (60.6%), increase in fatigue (60.6%), and weight gain (63.6%) were identified as signs and symptoms of worsening of their CHF. Although headaches and pain in your joints are not signs of heart failure worsening, 18.2% and 12.1%, respectively, still identified them as such.

Discussion

Perception versus Actual Knowledge

Based on the results analyzed, there was a large gap found between the patient's perceived knowledge of appropriate self-care behaviors for their management of CHF, and what the actual self-care behaviors and knowledge should be. For example, 66.7% of the respondents stated they had the necessary knowledge needed to keep their heart failure under control.

Likewise, 63.6% noted that they were able to monitor their condition, as well as detect any problems before it got worse. However 12.1% of the respondents did not even realize they were diagnosed with CHF demonstrating an inconsistency in knowledge. Of the patients that stated they were aware of their CHF diagnosis, only 54.5% selected the correct definition that “*Heart failure means that your heart is not pumping as well as it should.*” This disconnect between the patient’s perceptions knowledge needed to maintain control of their condition and the demonstrated knowledge of heart failure existed in approximately 10% of patients. Effective discharge teaching using the teach-back system should be directed at linking knowledge of heart failure to effective management of the disease process.

Signs and Symptoms

Some of the most classic symptoms associated with a diagnosis of CHF include dyspnea (shortness of breath), edema (usually in the legs or ankles), fatigue, and weight gain. In this study, the PaKSAC contained two questions asking patients identify symptoms associated with CHF. Participants had difficulty selecting symptoms when presented in the form of a list. For example, dyspnea was selected by 54.5% of respondents. However, when presented with a scripted question such as “*Is shortness of breath a sign your heart failure is getting worse?*” a higher percentage of correct answers were noted. This may indicate that patients may have difficulty selecting items from a list versus being presented in a scenario/sentence format. This difficulty may be due to a patient’s low level of health literacy, or may relate to cognitive impairment frequently seen in CHF (Andrietta et al., 2015). Asking a patient about a symptom in a sentence format provides the patient with an example within their own contextual situation. Healthcare team members should remember to individualize their teaching approach based on the patient’s health literacy and to present questions in various formats to gauge the patients’ understanding

(Blauer et al., 2015). If a patient is not identifying the correct response to questions, perhaps a different approach may be indicated.

Medication Compliance

The vast majority of the respondents (78.8%) agreed that without their heart failure medications they would be very ill. Likewise, 69.7% agreed that their health in the future depended upon taking their heart failure medications. Although these percentages were high, 42.2% of participants responded their drugs were a mystery to them indicating another knowledge gap. However, patients were not asked about their medication compliance in this study.

Based on these results, an emphasis on teaching patients about their medications is indicated throughout the transition from the acute care to home setting. Medication reconciliation and reinforcement during the transitional period is necessary to insure appropriate compliance with complex medication regimens. Patients are less compliant with their medications if they do not understand the purpose or significance of each medication (Andrietta et al., 2015).

Alcohol and Smoking

The results of this study demonstrated a higher percentage of respondents believed smoking (81.8%) were more detrimental to the pumping action of the heart, as compared to alcohol (57.6%). Moreover, when asked about important lifestyle interventions they could implement, only 27.3% selected abstaining from smoking versus 21.2% stating that refraining from alcohol would be helpful. This may be due in part to the increased focus of the smoking hazards publicized to the general public is greater than for hazards associated with alcohol use. During discharge teaching, it is important to emphasize both alcohol and smoking as hazards to the health and wellbeing of patients with heart failure due to the effect on the cardiac muscle's

pumping ability. CHF patients have a complex medical regimen prescribed, including many medications which have the potential to interact adversely with both alcohol and/or tobacco use. Patient education should include how alcohol and/or tobacco may impair the effectiveness of prescribed medications or promote or enhance side effects (Andrietta et al., 2015).

Sodium Restriction

The results of this study showed a high percentage of the respondents understood the importance of sodium restriction in their daily management of their heart failure. Not only did they understand the significance sodium restriction, but demonstrated a high percentage of participants implementing self-care behaviors to lower their sodium intake. The majority of patients identified restriction of salt intake by cutting back on salt as an important intervention in the treatment of heart failure. The majority of participants (63.6%) also believed salt restriction in the treatment of heart failure was as important as taking their medications. Additionally, the majority of the patients (86.4%) interviewed stated they had taken specific steps to eat low sodium foods in the past 6 months. Conversely, only 31.8% of participants were able to identify that they should be on a 2-gram sodium diet. When asked why it was difficult to follow a low sodium diet, the primary reason selected (22.7%) was because “It doesn’t taste good.”

These results show that a large percentage of patients do understand the significance of sodium restriction in their lifestyle and daily diet, and are attempting to make efforts to implement changes in their lives. Reason for noncompliance identified included that the low sodium diet didn’t taste good, low sodium foods were expensive, the low sodium diet was difficult to understand, and it just took too much time. Although patients are willing implement change, they required further education on how to achieve this goal. Areas of nutritional education that would benefit patients includes focus is how to properly identify high sodium

content foods, how to rinse foods to remove sodium content, and how to choose low sodium items when eating out.

Fluid Restriction

The study results revealed respondents understood the significance and importance of implementing fluid restriction into their lifestyle. Approximately 91% of participants rated fluid restriction as important as taking medications. Although they were aware of the importance of restricting fluids, only 50.0% knew that they should be consuming fewer fluids than usual. Similarly, only 50.0% of participants had taken specific steps in the last 6 months to limit their fluid intake. The most common reason noted by participants who had difficulty limiting fluids selected that they always felt thirsty (18.2%).

The significance of fluid restriction in the management of CHF is important to focus on during patient education along with providing different measures the patient could help to implement fluid restriction into their lifestyle to be successful (Aroll et al., 2010).

Daily Weights

Based on the study results, there was a high percentage of compliance and knowledge in regard to patients' understanding the significance of weighing themselves regularly. Daily weights were viewed as important by patients (86.3%) as taking medications in their treatment of heart failure. There was also a high rate of compliance in the patients (81.8%) weighing themselves every day. More importantly, 90.9% of participants reported they owned a scale, which worked correctly. When given a scenario question about their weight increasing by 4 pounds or more in the time span of two days, 86.4% responded they should call their heart failure doctor/nurse within 24 hours.

These results show high compliance and knowledge about the importance of daily weights in the management of CHF. Education about daily weights was emphasized during discharge teaching for CHF patients and routinely by nursing students in the transitional care project (Aroll et al., 2010).

Summary

This study provides findings on the knowledge deficit found in CHF patients. Study results lead to the conclusion that discharge planning and continued post-discharge education is extremely important for this population with identified gaps in knowledge identified. Nurses play an integral role in providing this education. Nurses need to be familiar with recent evidence that supports the best practice and methods to deliver the adequate knowledge and education to the CHF population (Evangelista & Shinnick, 2010). The educational goals should be designed to support and help guide patients and their caregivers through the barriers that may be found in implementing self-care behaviors into their daily lifestyles (Evangelista & Shinnick, 2010).

It is suggested that nursing documentation, post-discharge, should include information on whether or not the patient's discharge instructions seemed to be adequately understood or not (Andrietta et al., 2015). This would allow the healthcare team providing follow-up education a baseline of the patients' understanding of the prior education.

Prior to patient teaching, patients' previous knowledge should be identified. A survey that measures the patient's knowledge on CHF, such as the PaKSAC could be administered to patients to determine baseline knowledge. This would help tailor educational information to the individual's needs. The PaKSAC helps to identify gaps and inconsistencies in knowledge.

Studies have found that knowledge deficits concerning the treatment plan, recognition of worsening signs and symptoms, lack of knowledge concerning a complex medication regimen,

and lack of family and/or caregiver involvement in the plan of care are the most common factors related to noncompliance with treatment plans (Andrietta et al., 2015).

Involvement of the patient in developing a plan of action will increase self-care efficacy in patients and family/caregivers (Aroll et al., 2010). Using medication schedule assistive devices (pill boxes, timers, and calendars) can be used to assist patient compliance (Andrietta et al., 2015). Use of a teach-back system assists the nurse in evaluating the effectiveness of teaching.

Limitations

Some limitations identified in this study included sample size of the study and the fragmented care provided during the time the study was completed. Students were available only two days per week to visit patients and academic holidays left periods of time in which no visits occurred. This study also had a relatively small sample size with 21 patients completing the PakSAC surveys. A larger sample size may have provided a more accurate representation of the population studied and different results. Additionally, there was fragmentation in the care provided during the study. An additional limitation identified was the length of the intervention. Patients in this study were seen in a 14-week period following hospital discharge. It remains unclear in the literature the most effective length of time CHF patients should be followed in transitional care.

Conclusion

Due to the rising number of patients diagnosed with CHF, it is vital healthcare providers furnish patients effective discharge and post-discharge teaching. Effective patient education equips the patients with the necessary skills and knowledge needed to actively participate in self-

management activities. By actively participating in their care, higher quality of life and decreased hospital readmissions can be attained.

This study demonstrated that transitional care may be an excellent mechanism to provide post-discharge education to patients. Assessing patients' baseline knowledge after discharge provides information concerning gaps in knowledge, which need to be addressed in the teaching plan.

It is suggested that transitional care members gain more training and knowledge in how to better assess patients' knowledge level and how to overcome learning barriers. Patient involvement in self-care activities is predicated on the knowledge of the individual to make choices consistent with the medical regimen.

References

- Albert, N. M., Barnason, S., Deswal, A., Hernandez, A., Kociol, R., Lee, E. . . . White-Williams, C. (2015). Transitions of care in heart failure: A scientific statement from the American heart association. *Circulation: Heart Failure*, 8(2), 1-26. Retrieved March 1, 2016 from Web of Science.
- Andrietta, M. P., Moreira, R. S., & Barros, A.L. (2011). Hospital discharge plan for patients with congestive heart failure. *Revista Latino-Americana De Enfermagem*, 19(6), 1445-1452. Retrieved March 15, 2016, from CINAHL.
- Aroll, B., Doughty, R., & Andersen, V. (2010). Investigation and management of congestive heart failure. *BMJ: British Medical Journal*, 341(7765), 190-195. Retrieved February 7, 2015, from Web of Science.
- Blauer, C., Frei, I.A., Schnepf, W., & Spirig, R. (2015). Implementation of a nurse-led education program for chronic heart failure patients during hospitalization, and strategies supporting their self-management at home: a practice development project in the context of the Swiss healthcare system. *International Practice Development Journal*, 5(1), 1-15. Retrieved March 15, 2016 from CINAHL.
- American Heart Association (2015). Classes of heart failure. Retrieved from http://www.heart.org/HEARTORG/Conditions/HeartFailure/AboutHeartFailure/Classes-of-Heart-Failure_UCM_306328_Article.jsp#.Vw0KQWPwzEw
- EPICORE Centre (2003). Patient Knowledge of Self-care Activities in Congestive Heart Failure (PakSAC). Retrieved from <http://www.epicore.ualberta.ca/resources.html>.

- Evangelista, L.S. & Shinnick, M.A. (2010). What do we know about adherence and self-care? *Journal of Cardiovascular Nursing*, 23(3), 250-257. Retrieved February 7, 2015, from Web of Science.
- Leppin, A. L., Gionfriddo, M. R., Kessler, M., Brito, J. P., Mair, F. S., Gallacher, K. . . . Montori, V. M. (2014). Preventing 30-day hospital readmissions. *JAMA Internal Medicine JAMA Intern Med*, 174(7), 1095-1107. Retrieved March 1, 2016 from Web of Science.
- Piña, I. L., Apstein, C. S., Balady, G. J., Belardinelli, R., Chaitmain, B. R., Duscha, B. D., . . . Sullivan, M. J. (2003). Exercise and heart failure: A statement from the American heart association committee on exercise, rehabilitation, and prevention. *Circulation*, 107(8), 1210-1225. Retrieved March 1, 2016 from Web of Science.
- Rafii, F., Shahpprian, F., & Azarbaad, M. (2008). The reality of learning self-care needs during hospitalization: Patients' and nurses' perceptions. *Self-Care, Dependent-Care & Nursing*, 16(2), 34-39. Retrieved March 15, 2016 from CINAHL.

Appendix A
PATIENT KNOWLEDGE OF SELF-CARE ACTIVITIES
IN CONGESTIVE HEART FAILURE (PaKSAC) BY DOMAIN

Domain	Questions
<i>Knowledge about CHF</i>	<p>Do you have congestive heart failure diagnosed by a health professional?</p> <p>Have you ever been to teaching classes on congestive heart failure?</p> <p>Have you ever been to a specialized Heart Failure Clinic?</p> <p>What is the best definition of congestive heart failure?</p> <p>Which of the following foods contain a lot of salt?</p> <p>Compared to someone without heart failure, a person with heart failure should eat?</p> <p>How much should you be restricting salt in your daily diet?</p> <p>Compared to someone without heart failure, a person with heart failure should drink?</p> <p>How many cups of fluid should you have in one day if you have heart failure?</p> <p>Someone with heart failure should weigh himself or herself (how often)?</p> <p>If your weight goes up by 4 pounds or more over two days, what should you do?</p> <p>It is safe for someone with heart failure to do light exercise like walking.</p> <p>Rest is good for your heart.</p> <p>Drinking alcohol can weaken the heart's pumping ability.</p> <p>Smoking can weaken the heart's pumping ability.</p>
<i>Signs and Symptoms</i>	<p>What are the symptoms of heart failure?</p> <p>Is shortness of breath a sign your heart failure is getting worse?</p> <p>Is swelling of your legs or ankles a sign your heart failure is getting worse?</p> <p>Is waking up at night short of breath a sign your heart failure is getting worse?</p> <p>Is pain in your joints a sign your heart failure is getting worse?</p> <p>Is feeling more tired than usual a sign your heart failure is getting worse?</p> <p>Is weight gain a sign your heart failure is getting worse?</p>
<i>Self-Care</i>	<p>Your doctor gives you medications to treat your heart failure, but there are also things you can do on your own. What are the most important things you can do to prevent your heart failure from getting worse?</p> <p>How would you rate the importance of salt restriction in the treatment of heart failure?</p> <p>During the last 6 months have you taken specific steps to eat foods that are low in salt?</p> <p>Is it difficult to follow a low salt diet?</p> <p>Why is it difficult to follow a restricted salt diet?</p> <p>How would you rate the importance of fluid restriction in the treatment of heart failure?</p> <p>During the last 6 months have you taken specific steps to limit your intake of fluids?</p> <p>Is it difficult to limit your fluid intake?</p> <p>Why is it difficult to limit your fluid intake?</p> <p>How would you rate the importance of weighing yourself regularly in the treatment of heart failure?</p> <p>Do you have a scale at home that works correctly?</p> <p>How often do you weigh yourself?</p> <p>Prior to this hospitalization, were you taking medications for heart failure?</p> <p>Without my heart failure drugs, I would be very ill.</p> <p>My health in the future will depend on my heart failure drugs.</p> <p>My drugs are a mystery to me.</p>
<i>Self-Care Confidence</i>	<p>I know what I need to do to keep my heart failure under control.</p> <p>I know how to monitor my heart failure and detect any problems before they get really bad.</p> <p>Sometimes I get more short of breath or tired and I don't know why.</p> <p>If my heart failure gets worse, I know what I need to do to make myself better.</p> <p>If my heart failure gets worse, I feel scared and want to call my doctor or nurse right away</p>