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The Effect of Home Health Interventions on Hospital Readmission Rates in Patients with Congestive Heart Failure

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Executive Summary

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Introduction of the Problem

Heart failure has reached epidemic proportions. From an epidemiological standpoint, the prevalence of HF is over 5.8 million in the United States and over 23 million worldwide (Bui, Horwich, & Fonarow, 2010). Although heart failure mortality is declining, the financial burden of caring for patients continues to grow as evidenced by hospitalizations and readmissions (Roger, 2013). To reduce costly readmissions, prior research includes both interventions and their efficacy. Research indicates the use of only one interventions is not as effective as a combination of interventions due to complexity of this issue. Effective interventions include nurse-led post discharge education, self-care/self-monitoring, and improving nursing knowledge of heart failure (Delaney, Apostolidis, Lachapelle, & Fortinsky, 2011; Eastwood, Travis, Morgenstern & Donaho, 2007; Gu, Ma, Zhou & Xia, 2016; Moore, 2016; Jaarsma, Cameron, Riegel & Stromberg, 2017).

A local rural home health department expressed the need for updated heart failure booklets to give to their patients and stated that the nursing staff might benefit from a refresher course on managing patients with heart failure. While the heart failure population is small in this Midwest rural county, they wanted to make sure they were providing their patients with the most up to date information regarding heart failure. Additionally, the nurses might benefit from education on key findings from a patient assessment indicating an acute exacerbation of

congestive heart failure. A new, updated heart failure handbook provided additional information regarding heart failure pathophysiology and management of the disease.

Literature Review

Nurses are in an optimal position to provide patient education in the home setting. The literature supports nurse-led patient education interventions with positive outcomes in comprehension and reduced readmission rates (Kutzleb et al, 2015; Ross, Ohlsson, Blomberg and Gustafsson, 2015; Feldman et al, 2004). However, Ekong, Radovich, and Brown (2016) revealed that nurses lack knowledge in specific areas of heart failure including diet, medications and fluid/weight monitoring. Despite the findings of the Ekong study, other studies that have proven that nurse-led educational interventions are successful. Kutzleb et al (2015) reported that a nurse practitioner led intervention group had a readmission rate of 8% as compared to the control group's readmission rate of 26%. Not only are nurse-led interventions successful, a study by Ross, Ohlsson, Blomberg and Gustafsson (2015) found that if nurses address questions written down by the heart failure patients about their diagnosis and treatment, patient satisfaction increases by adding an individualized component.

After reviewing the current literature, it is apparent that self-care and self-monitoring are important aspects of heart failure home care and reducing readmissions. The definition of self-care is a process of maintaining health through health promoting practices and managing illness and performed in both healthy and ill states (Jaarsma, Cameron, Riegel & Stromberg, 2017). Ekong, Radovich, and Brown (2016) identified five primary heart failure self-care principles including a) low sodium diet, b) medication regimen, c) fluid/weight management, d) exercise/activities, and e) warning signs and symptoms. Nurses should be proficient in these areas in order to guide and teach heart failure patients appropriate self-care and monitoring.

The systematic review by Boyde, Turner, Thompson, and Stewart (2011) revealed that out of eight studies that reviewed self-care, six of them show statistically significant improvement. Home health care nurses play a pivotal role in educating heart failure patients about their disease process and management of symptoms. However, a review of the literature has shown that nurses lack adequate heart failure knowledge and may not understand their role in heart failure management (Mahramus et al, 2014; Delaney, Apostolidis, Lachapelle & Fortinsky, 2011; Prasun et al, 2012).

In a study by Mahramus et al (2014), nurses' knowledge of heart failure self-care tested before and after an educational intervention and then again in three months. Substantial differences were noted between the pre-test (65.1%) and post-test (80.6%). The three-month follow up test was only completed by 61 of the 150 participants but the results indicated a noteworthy increase at 89.5%. The importance of reducing hospital readmissions continues to be an issue.

The Center for Medicare and Medicaid Services initiated a penalty for hospital readmission for heart failure, acute myocardial infarction and pneumonia in 2012. This penalty has been detrimental to hospitals for reimbursement of services. A study by Vidic, Chibnall, and Hauptman (2015) states that heart failure is a major driver of hospital readmission penalties.

A study evaluating home versus clinic-based management of chronic heart failure revealed a reduction in healthcare costs in the home based intervention. (Stewart et al, 2012). This study supports the home-based management of this literature review. Most of the literature reviewed showed a reduction in hospital admission, lower length of stay, and a reduction in cost utilization (Stewart et al., 2012; Berg, Wadhwa, & Johnson, 2004; Kutzleb et al., 2015).

Project Methods

The primary aim of this project was to develop a heart failure patient education booklet and provide heart failure zone education to the home health nurses in an effort to decrease hospital readmission rates. The target population consisted of a convenience sample of home health nurses and patients diagnosed with heart failure located in a rural health department in the Midwest. The target sample size was no more than ten nurses. The stakeholder for this project was the rural health department. Approval for the project was through the Southern Illinois University Edwardsville IRB.

Primary outcome measures are to improve the nurses' knowledge of heart failure, heart failure patient education, and reduction in readmission rates. Measurement of nurse education used a pre- and post-intervention tests. The project team created the tests. The test for the home health nurses consisted of clinical questions from important areas of heart failure education such as fluid/weight management, low sodium diet, exercise, symptom management and heart failure medications. Measurement of readmission rates used patient charts to follow the number of 30-day readmissions four months prior to the intervention and then 30-day readmissions four months after the intervention.

Evaluation

The home health nurses will be evaluated on heart failure knowledge by using a pre/post-test, prior to and immediately after the educational session. Heart failure readmissions will be tracked and evaluated four months prior to intervention and four months post intervention. Now that the project is over, I would like to be able to repeat this on a larger scale with other rural health departments.

Impact on Practice

This project had positive results and showed promise for future studies in this area. The nurses expressed eagerness to learn and refresh their knowledge of heart failure and reflected in their post-intervention test scores. The long-term impact is to continue to provide a heart failure handbook to each heart failure patient when newly admitted to home health. The goal is to prevent hospital readmissions and close the gap between hospital discharge and readmission. Replication of this project on a larger scale would potentially benefit a broader picture of appropriate interventions to reduce hospital readmissions in patients with heart failure.

Conclusions

Heart failure readmissions will continue to remain a problem until the gap between hospital discharge and readmission is closed. Home health nurses play a pivotal role in closing this gap. By providing educational opportunities for home health nurses and encouraging one on one teaching sessions between the patient and nurse, the chance of heart failure readmission has the potential to decrease.

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