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Expansion of Heart Failure Education from Hospital to Clinic

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Executive Summary

Introduction

Heart failure education is vital to the long-term management of this chronic condition. When educated about heart failure, patients are able to self-manage their care and reduce exacerbations. At a small, rural, critical access hospital system in southeast Missouri, the means for education exists in the form of a heart failure education packet for their inpatient services. After discovering tools for heart failure education were lacking in the outpatient clinics, I met with clinic leadership to present my project idea. Clinic leaders were in favor of my plans to implement the heart failure education tool for use in outpatient clinics and educate providers and staff about the existence of the packet and its contents. I educated the providers and staff of four outpatient clinics and evaluated my effectiveness through use of a pre-test and post-test. Outpatient clinic staff now have the education and tools necessary to educate their heart failure patients.

Literature Review

Heart failure is a chronic condition in which the heart muscle is unable to pump blood adequately (American Heart Association, 2022). It is a progressive condition with no cure. On average, patients will live 5 more years after their heart failure diagnosis. If the disease is advanced, only 10-20% of patients will live longer than one year (Heart Failure Society of America, 2017). There are numerous treatment therapies available to slow or even halt the progression of heart failure, both pharmacologically and non-pharmacologically. Educating the patient on the principles and fundamentals of heart failure will enhance their ability to self-care or self-manage. Self-care refers to “activities and practices performed primarily by individuals in order to maintain and enhance health and overall well-being” (Peyman et al., 2020, p. 279). By

participating in self-care, the patient with heart failure is more likely to adhere to the medication regimen, restrict their salt in their diet, and improve self-monitoring of weights (Zuraida et al., 2021). With proper self-management, the patient reduces symptoms, reduces acute exacerbations and preserves remaining heart function.

Current recommendations for heart failure education are given by the American Heart Association (AHA) and the American College of Cardiology (ACC). Recommendations include verbal instruction and written materials detailing the patient's medication plan, verbal instruction and written materials explaining how to recognize symptoms and what to do when they occur, and instruction on the importance of daily weights (Bozkurt et al., 2021). Education must be individualized to the patient. The educator must take into account the patient's barriers to learning including sensory or cognitive impairments (Mathew & Thukha, 2018). Evidence also shows a multidisciplinary team approach results in the greatest learning. The team can involve pharmacists, social workers, dietitians, nurses and providers (Almkuist, 2017).

Sixty minutes of heart failure education as set forth by the AHA has been shown to reduce preventable hospital readmissions, improve mortality rates and lessen hospital cost burden (Mattina et al., 2021). Longer education intervention is linked with lower mortality rates and reduced hospitalizations for each month of education intervention (Pereira Sousa et al., 2021). Lack of patient understanding is reported as a leading cause of hospital readmission (Caluya Jr., 2021). It has also been established that the first readmission is linked to subsequent readmissions and a higher mortality rate (Rice et al., 2018). Self-care education can increase knowledge, skills, and confidence, which helps the patient adhere to lifestyle changes and respond to symptoms appropriately (Zuraida et al., 2021). With increased self-care behaviors and adequate management of their disease comes increased quality of life (Herrick et al., 2020).

Since education increases ability to self-care, education increases quality of life (Rice et al., 2018).

Project Methods

To properly educate patients with heart failure about their condition, providers and staff must be educated on what heart failure patients need to know. An educational session was presented to providers and staff of outpatient clinics outlining what was included in the heart failure education packet. Session effectiveness was evaluated through use of a pre-test and post-test. An overall increase in post-test scores would indicate a successful education session. The packet was discussed page by page and covered topics such as heart failure medications, fluid restrictions, low sodium diet, importance of daily weights, blood pressure monitoring, and importance of staying active.

Finally, the “Heart Failure Chart” and “Heart Failure Action Plan” at the end of the heart failure education packet were addressed. The “Heart Failure Chart” consists of questions the patient can ask themselves to identify a change in their condition or a worsening of symptoms (ex. Can I breathe as well as I usually can?). The “Heart Failure Action Plan” is a stoplight tool telling the patient how to respond to symptoms they have. With no symptoms, the patient lies in the green zone. The yellow and red zones indicate that patient is having symptoms and that intervention is needed. If the patient’s symptoms lie in the yellow zone, a call to the patient’s provider is warranted. If the patient’s symptoms lie in the red zone, a 911 call or visit to the emergency department is needed. Conclusion of the educational session consisted of discussion of which patients will receive the packet and who was to out hand out the packets. Any patient with a diagnosis of heart failure was to receive the packet and nurses or medical assistants were to give the packet to these patients.

Evaluation

A five-question pre-test and post-test was used to evaluate the efficacy of the heart failure educational session that was given to participants. After introduction of the session, the pre-test was completed, the educational session was completed, and then post-test was administered after finishing the educational session. Participants included: medical assistants, registered nurses, and providers. Providers included both medical doctors and nurse practitioners. In total, there were 25 participants, including 4 medical assistants, 15 registered nurses, 4 nurse practitioners, and 2 medical doctors. The project was implemented at four separate sites.

Results can be summarized in Tables 1 and 2 (below). The average score on the pre-tests was 80%. The overall score on the post-test was 99%, an increase of 19% from pre-test scores. Medical assistant scores increased from 40% to 95% from the pre-test to the post-test. Registered nurse scores increased from 87% to 100% from the pre-test to the post-test. Finally, provider scores increased from 90% to 100% from the pre-test to the post-test. From these results, we can conclude project implementation was successful due to the higher test score results from pre-test to post-test.

Though project data shows successful implementation, there were limitations to the project. The main limitation identified was lack of sample size. When visiting the clinics, some providers were absent. Many of the support staff attended the Zoom session that introduced the project. Those that attended the Zoom session did not attend the in-person heart failure educational session because they thought it was the same information presented in the Zoom meeting. Clearer communication regarding expectations of the educational sessions should have been provided. Positive results were seen with the 25 participants, but a sample size of around 40-45 was expected prior to implementation based on populations of staff at implementation

sites. Educational sessions were coincidentally planned on days when a lot of providers were out of the office or had called in that day. Though this was coincidental, rescheduling the meeting should have been discussed; however, their absences were not known until arriving on their scheduled day to present the project. Stronger communication from both the project implementer and clinic leaders could have resulted in a larger sample size. Education should be completed with those absent on the days of project implementation. This has been completed at two of the four clinical sites. Staff who did not attend the meeting were required to meet with the clinic leader to receive education on the contents of the heart failure education packet and what patients should receive the packet.

Impact on Practice

During follow-up meetings and subsequent visits to the clinic sites, it was evident the project was successful. Clinic staff were observed giving out heart failure education packets. Observation of a few providers revealed they were educating their clinic patients based on the information inside the packets. The marketing department at the hospital prints and supplies the heart failure education packets. The department reported they've had to replenish supply of the educational packets a few times since implementation. Project stakeholders were very happy with implementation of the project. They were pleased with pre-test versus post-test data and the increase in pre-test versus post-test scores. This project accomplished its goal of making sure all providers are on the same page regarding heart failure education information.

Long-term, it is expected that patients in outpatient clinics will receive thorough heart failure education and that those providing education will feel comfortable providing the education. Patients will receive consistent, nonconflicting education from their providers regardless of which clinic they attend. It is expected that new hires will be educated on the heart

failure education packet and when to implement the packet. It is also expected that clinic leadership and the cardiologist on staff will update any information in the heart failure education packet according to latest research.

Conclusion

Heart failure education is vital to the longevity of patients with the disease. With proper symptom management and lifestyle adjustment, heart failure can be a manageable condition. This project taught medical assistants, nurses, and providers what information heart failure patients need including topics such as: medication adherence, low sodium diet, fluid restriction, and blood pressure control. Patients are also being educated on when to seek intervention for their heart failure symptoms.

The project performed well. This was evidenced by post-test scores increasing 19% from pre-test scores. The project implementer observed both medical assistants and nurses handing out heart failure education packets and providers educating on heart failure using the heart failure education packet. Patients who need heart failure education in outpatient clinics are receiving the education they need. Finally, all support staff and providers are giving out the same information regarding restrictions for heart failure patients. Patients will no longer be confused hearing different information from different providers.

For expansion of this project, better communication regarding expectations of educational sessions is a necessary adjustment to ensure increased participation in heart failure education sessions. Intermittent refreshers on the information contained in the heart failure education packet may also be helpful for the future for those who do not regularly educate on heart failure.

Appendix

Table 1

| PRE-TEST | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Avg. Score |
|---------------|------------|------------|------------|------------|------------|------------|
| Average | 84% | 80% | 68% | 72% | 96% | 80% |
| MA Avg. | 50% | 25% | 50% | 0% | 75% | 40% |
| RN Avg. | 87% | 87% | 67% | 93% | 100% | 87% |
| Provider Avg. | 100% | 100% | 83% | 67% | 100% | 90% |

Table 2

| POST-TEST | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Avg. Score |
|---------------|------------|------------|------------|------------|------------|------------|
| Average | 100% | 100% | 96% | 100% | 100% | 99% |
| MA Avg. | 100% | 100% | 75% | 100% | 100% | 95% |
| RN Avg. | 100% | 100% | 100% | 100% | 100% | 100% |
| Provider Avg. | 100% | 100% | 100% | 100% | 100% | 100% |