Spring 2018

The efficacy of the Teach-back Method of education on readmission rates in heart failure patients within 30 days of discharge

Catherine Lynch
James Madison University

The Efficacy of the Teach-Back Method of Education on Readmission Rates in Heart Failure Patients within 30 Days of Discharge

An Honors College Project Presented to

the Faculty of the Undergraduate

College of Health and Behavioral Studies

James Madison University

by Catherine Elaine Lynch

May 2018

Accepted by the faculty of the Department of Nursing, James Madison University, in partial fulfillment of the requirements for the Honors College.

FACULTY COMMITTEE:

Project Advisor: Betsy Herron, Ph.D., R.N., C.N.E.
Assistant Professor, Nursing Department

Reader: Erika Metlzer Sawin, Ph.D., R.N.
Associate Professor, Nursing Department

Reader: Carolyn Schubert,
Interim Director of Research & Education Services,

HONORS COLLEGE APPROVAL:

Bradley R. Newcomer, Ph.D.,
Dean, Honors Col

PUBLIC PRESENTATION

This work is accepted for presentation, in part or in full, at the Health and Behavorial Studies Building on May 4th 2018.

The Efficacy of the Teach-Back Method of Education on Readmission Rates in Heart Failure Patients within 30 Days of Discharge

Catherine Elaine Lynch

James Madison University

Background: The teach-back method is a method of education that is being used with heart failure patients in order to improve their quality of education and lower readmission rates. This literature review is aimed at synthesizing studies conducted to determine the efficacy of the teach-back method with this specific patient population.

Methods: Electronic searches of CINAHL and PubMed were performed through James Madison University libraries. Articles selected for inclusion were evaluated for study design, relevance, and sample size.

Results: Three studies met eligibility criteria, these studies showed statistically significant evidence that the teach-back method did reduce readmission rates in heart failure patients.

Discussion: Hospital education programs should include the teach-back method in their existing education program in order to reduce readmission rates. Further studies should be done on a more diverse population and the long term results of the teach-back method.

Keywords: heart failure, education, teach-back, readmission rates, discharge education, quality improvement

The Efficacy of the Teach-Back Method of Education on Readmission Rates in Heart Failure Patients within 30 Days of Discharge

Heart failure (HF) is an epidemic that has been sweeping the United States for decades. HF is defined as "a complex clinical syndrome characterized by abnormalities of left ventricular function and neurohormonal regulation which are accompanied by effort intolerance, fluid retention and reduced longevity" (Stewart, 2002, p. 120). It affects nearly 6 million Americans, a number projected to increase by 46% in the year 2030 (Rasmusson, Flattery, & Baas, 2015). Not surprisingly, considering the complex pathophysiology of HF, diagnosed patients receive a complex cocktail of pharmacological agents that need constant adjustment in order to maintain optimum clinical management. This complex regimen paired with lack of adequate education leads to an increased likelihood of medication misadventure (Stewart, 2002). A medication misadventure is anything that would hamper the efficacy or purpose of the medication, such as wrong dosages, wrong administration time, or completely missing a dose (Stewart, 2002).

Readmission rates are high for HF patients, despite improvements in clinical management of the disease. Over 50% are readmitted to the hospital within 6 months of discharge (Desai & Stevenson, 2012). Hospital readmissions account for two-thirds of the total costs associated with management of this disease (Stewart, 2002). Almost 50% of patients believe their rehospitalization is preventable, and these patients cite lack of knowledge and nonadherence as the main reasons that these rehospitalizations occur (Gilotra et al., 2016). One way to prevent these daunting readmission rates is improved patient education methods. To engage in self-care practices, patients with HF and their support systems need to acquire knowledge and skills specific to the health problem (Rasmusson et al., 2015). Effective education of patients during hospitalization and at discharge promotes self-care, reduces readmissions and helps patients

identify problems early so that they can seek appropriate medical attention. Early identification of problems increases the chances for intervention and improved outcomes (Paul, 2008).

The specific education method that this literature review examines is the teach-back method. During the teach-back process, patients get a better understanding of their disease as well as the associated treatment modalities and are able to make more educated decisions regarding their care. This method is a patient-centered communication approach that confirms patient and caregiver understanding by asking the patient to explain the concept back accurately (Xu, 2012). Caplin and Saunders (2015) reported that many patients are reluctant to admit that they do not understand what has been communicated to them; the teach-back method eliminates this complication, particularly for individuals with low health literacy.

Heart Failure

The combination of increased survival following acute myocardial infarction coupled with the gradually aging population results in an increased incidence of chronic cardiac diseases, such as heart failure (Stewart, 2002). HF is the leading cause of hospitalization in patients over the age of 65 (Roger, 2014). Around 5.7 million adults in the United States have HF and 1 in 9 deaths in 2009 included HF as a contributing cause; about half of the people who develop HF die within 5 years of diagnosis (Centers for Disease Control and Prevention [CDC], 2016). Heart failure costs the nation an estimated $30.7 billion each year, this includes the cost of health care services, pharmacological treatment, and missed days of work (CDC, 2016). Reductions in these readmission rates will not only improve patient outcomes but will simultaneously reduce costs. According to Paul (2008), 54% of readmissions may be preventable through better discharge planning and education.

Current Methods of Patient Education

The current standard method of education, defined by the American Heart Association is to provide a 60-minute educational session about recognition of escalating symptoms, activity/exercise recommendations, indications and usage of medications, importance of daily weight monitoring, specific diet recommendations, and the importance of follow-up appointments (American Heart Association, 2011). Another portion of this education method is the "Red-Yellow-Green Congestive Heart Failure Tool," which was developed by the Improving Chronic Illness Care Model and funded by the Robert Wood Johnson Foundation (Agency for Healthcare Research and Quality [AHRQ], 2007). This tool uses the colors of a stoplight and guides patients in symptom identification. If a symptom is listed within the green section then it is "all clear," yellow is "caution," and red indicates "medical alert" (AHRQ, 2007). Although these are quintessential topics to cover, these patient education methods do not require assessment of a patient's understanding or ability to translate these concepts into their self-care scenarios. Outcomes improve when patients are educated with the intent for them to become active participants in their care (Rasmusson et al., 2015). In 2013, the American Association of Heart Failure Nurses (AAHFN) conducted a survey of members to assess the status of inpatient education; respondents (n=409) indicated that nearly 45% of the time patients *rarely* or *never* received 60 min of education (Rasmusson et al., 2015). In another study, when asked "Do you have HF?" 8.5% of patients said "no" indicating that they were unaware of their diagnosis, let alone how to complete self-care activities (Gilotra et al., 2016). These are the gaps in education that need to be bridged in order to meet the unique needs of each patient.

Treatment Compliance Issues In HF Patients

Paul (2008) found that education at discharge for HF is a vital component of a successful treatment plan. Subjects that should be emphasized during education sessions include the importance of medication adherence, sodium and fluid restrictions, recognition of signs and symptoms that indicate progression of disease, smoking cessation, abstaining from alcohol, daily weights, and a reduction of fat and cholesterol in the diet (Paul, 2008). The primary reasons for high rate of hospitalization were a lack of compliance with medications, failure to follow salt restricted diet, and delays in seeking medical attention (Paul, 2008).

In order to decrease the readmission rates of HF patients and improve overall patient health and outcomes it is imperative to understand the methodology behind patient non-adherance. Hope and Young (2004) assessed patient knowledge of dosage, frequency, and indication of their medications; results indicated that lower medication adherence and inability to read labels were associated with an increased number of cardiovascular related visits to the emergency department for HF patients aged 50 years and older. Evangelista and Dracup (2000) took a closer look at patient compliance; data was collected about noncompliance from 220 HF patients with multiple readmissions in the past year. Sixty-four percent of readmissions related to non-compliance with medication, 69.5% related to non-compliance with smoking cessation, and 71% related to non-compliance with abstinence from alcohol use (Evangelista, & Dracup, 2000). All of these compliancy issues can be addressed by increasing the quality and quantity of patient education; knowledge increases perceived control and facilitates the patient's adaptation to the chronic-illness role and self-care behavior (Stromberg, 2005). In order to improve the education healthcare practioners have to investigate an avenue that provides them with an opportunity to

assess learning needs as well as evaluate topics learned after an education session. One of these avenues is the teach-back method.

Teach-Back Method

The teach-back method is made up of four stages: (1) explaining, (2) assessing, (3) clarifying, and (4) understanding (Caplin & Saunders, 2015). The first stage consists of the beginning of patient education, the health care provider (HCP) explains to the patient the information that is needed to be understood (Caplin & Saunders, 2015). During the second stage the HCP assesses the patient's understanding of the information provided by asking questions. In the third stage the information not clearly understood is then clarified (Caplin & Saunders, 2015). Stages (2) and (3) might need to be repeated, dependent upon the continued assessment of patient understanding. Once the HCP has confirmed that the patient has complete understanding of the information provided than they are considered to be in stage (4) (Caplin & Saunders, 2015). The teach-back method is endorsed by the Agency for Healthcare Quality and Research, the National Quality Forum, the Joint Commission, and the Institute for Healthcare Improvement. It has been determined to be an effective method of patient education independent of demographic details (e.g. race, gender, education level, age, and income) (Caplin & Saunders, 2015). It also has been included in a comprehensive education plan delineated in the "American Association of Heart Failure Nurses Position Paper on Educating Patients with Heart Failure" (Rasmusson et al., 2015).

At the University of Pittsburgh Medical Center, the teach-back method was implemented on a step-down cardiac unit (Miller, 2016). They found that patients appreciated the opportunity to ask questions, discuss concerns, and clarify misconceptions before discharge. Twenty-five out of thirty of these patients (83.3%) were determined to have complete understanding of their

medications (Miller, 2016). After the implementation of the teach-back method, only 2 of the 30 patients were readmitted within 30 days (6.7%) (Miller, Lattanzio, & Cohen 2016). Donna Wimberly, Assistant Vice President of Patient Care at Wayne Memorial Hospital in North Carolina recommends using the teach-back method and has implemented it at her hospital (Cryts, 2015). Wimberly claims that not only does the education focus on the understanding of medications but the use of any medical equipment that is being sent home with the patient, which is helpful in preventing relapse or further complications (Cryts, 2015). Therefore, the teach-back method might be a viable approach to provide and assess patient education to support HF patient self-efficacy with discharge

Methods

Electronic searches of CINAHL and PubMed were performed through the library database of James Madison University. Keywords used were “heart failure” AND “teach-back method.” Additional terms for teach-back method were also included, such as “tell-back inquiry” and “tell-back collaborative.” Articles selected for inclusion were evaluated for study design, relevance, and sample size. Only quantitative studies were used with specifically heart failure patients and a sample size of 100 or greater. Exclusion criteria included a publication date of greater than 10 years from October of 2017. References contained within articles were then hand sorted for inclusion into the review.

Results

These studies are summarized in Appendix A (Summary of Studies Investigating the Correlation between the Teach-Back Method and HF). All of these studies were conducted in an acute care facility and all of these studies included patients from the United States. All of these studies were also conducted on HF patients who had been diagnosed for 6 months or longer.

A common theme was that not only did the use of the teach-back method reduce the rates of readmission but it led to increased self-care (Kemp, 2008). One of the studies discussed that when the teach-back method was used it reduced readmission rates in patients overall; however, if that patient was readmitted to the hospital then the second hospital stay was shorter than the initial visit and readmission rates were improved thereafter (Peter & Robinson, 2015).

One of the studies discussed the importance of identifying the "key learner," which is defined as "the individual, which may or may not include the patient, who is responsible and accountable to the learning process" (Peter 2015 pg. 36). Identification of this individual was integral to consistency and quality of education. The teach-back questions were tailored to fit this individuals learning needs and addressed the 3 domains of learning: knowledge, attitude, and likelihood of behavioral or lifestyle changes after discharge (Peter, 2015). By adding these questions into the teach-back process, the treatment plans became even more individualized. The identification of this individual allows the health care provider to fully assess health literacy and further improve patient education. This was the only evidence of health literacy assessment within any of the articles reviewed and should be addressed in further studies.

One of the limitations of these studies was in the patient population. The studies focused on HF patients over the age of 50 without regard to gender, ethnicity, or cultural background. In order to further analyze the teach-back method in HF patients additional research should be conducted to determine the effects of these variables on efficacy of education in specific populations. For example, focusing on if the teach-back method was more effective in younger populations or in women vs. men. Another area to examine within the patient population would be the difference in patients in regard to the length of time that has passed since they have been

diagnosed. A patient who was diagnosed within the past 6 months is going to have a different pattern of self-care than an individual who has known their diagnosis for the past 20 years.

Another limitation in the studies was the length of time observed. Data for readmissions 30 days after discharge was discussed, but no information for the long term effects of the teach-back method were discussed. One of the studies also focused on follow-up care post discharge, which made it unclear if the teach-back method was responsible for the reduction in readmissions or if it was simply the addition of follow-up care within the initial 30 days (White, et al., 2013). All of the studies utilized individual education with the teach back method. An area for further research might include the efficacy of individual education with teach-back versus group education with teach-back.

Nursing Implications

Evidence and the results of this project support the teach-back method as an essential tool in patient education, but it can be difficult to adapt new strategies in a health care organization. The Agency for Healthcare Research and Quality (AHRQ) gives recommendations for nurses on how to implement the teach-back method into daily patient interactions (AHRQ, 2015) Their recommendations include, planning the health care provider's approach, giving the information in sections rather than all at once, starting slowly and remaining consistent, using the show-me method (with demonstrations), and using educational handouts along with the teach-back method (AHRQ, 2015). The AHRQ also gives nurses tools to track their progress in the use of the teach-back method, to track the clinician's confidence in using of the teach-back method as well as an observation tool to be filled out by another observing HCP, the "Conviction and Confidence Scale" and "Teach-Back Observation Tool" respectively. The teach-back method gives nurses an

opportunity to streamline their education techniques to provide the best patient care to achieve a greater number of positive outcomes.

Limitations & Future Research

Future research needs to be done on effectiveness of the teach-back method in other patient populations. This literature review focused on HF patients over the age of 50 with no specification to gender, ethnicity, or time of diagnosis. In order to fully understand the efficacy of the teach-back method and to encourage implementation on all hospital units, research should be conducted in other age groups as well as different ethnic backgrounds. These studies focused on the readmission rates within the first 30 days of discharge but it is important to also understand the long term education effects of this method. Further studies are needed in order to examine this patient population longer than 30 days post discharge.

Conclusion

This literature review described current research on the effectiveness of the use of the teach-back method of education in HF patients. The evidence indicates that this simple and cost-effective method showed drastic improvement in patient outcomes, particularly readmission rates. Research supports the use of the teach-back as a simple yet powerful tool to engage patients and caregivers in the learning process.

References

Agency for Healthcare Research and Quality (2015, February 05). Use the Teach-Back Method. Retrieved, from https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool5.html

Agency for Healthcare Research and Quality. (2007). *Red-Yellow-Green Congestive Heart Failure Tool* [Brochure]. Retrieved from: https://innovations.ahrq.gov/qualitytools/red-yellow-green-congestive-heart-failure-chf-tool

American Heart Association. (2011). *Enhanced heart failure patient education prior to hospital discharge* [Brochure]. Retrieved from: https://www.heart.org/idc/groups/heart-public/@private/@wcm/@hcm/@gwtg/documents/downloadable/ucm_428949.pdf

Caplin, M., & Saunders, T. (2015). Utilizing teach-back to reinforce patient education: a step-by-step approach. *National Association of Orthopaedic Nurses*, *34*(6), 365-368. doi:10.1097/NOR.000000000000019

Centers for Disease Control and Prevention Division for Heart Disease and Stroke Prevention. (2016, June 16). Heart Failure Fact Sheet. Retrieved from: https://www.cdc.gov/dhdsp/data_statistics/fact_sheets/fs_heart_failure.htm

Cryts, A. (2015, September 28). Five hospitals successfully reducing readmissions. Retrieved from http://managedhealthcareexecutive.modernmedicine.com/managed-healthcare-executive/news/five-hospitals-successfully-reducing-readmissions?page=0%2C3

Dastoom, M., & Elahi, N. (2016). The effects of group education with the teach-back method on hospital readmission rates of heart failure patients. *Jundishapur J Chronic Disease Care*, *5*(1), 24-29. doi:10.17795/jjcdc-30377

Desai, A., & Stevenson, L. W. (2012). Rehospitalization for heart failure. *Circulation*, 126, 501-506. doi: 10.1161/CIRCULATIONAHA.112.1254

Evangelista, L. S., & Dracup, K., (2000). A closer look at compliance research in heart failure patients in the last decade. *Progress in Cardiovascular Nursing*, *15*(3):97-103.

Gilotra, N. A., Shpigel, A., Okwuosa, I. S., Tamrat, R., Flowers, D., & Russell, S. D.,(2016). Patients commonly believe their heart failure hospitalizations are preventable and identify worsening heart failure, nonadherence, and a knowledge gap as reasons for admission. *Journal of Cardiac Failure, 23*(3), 252-258. doi:10.1016/j.cardfail.2016.09.02

Hope, C. J., & Young, J. (2004). Association of medication adherence, knowledge, and skills with emergency department visits by adults 50 Years or older with congestive heart failure. *American Journal of Health-System Pharmacy*, 61, 2043-2049.

Kemp, E. C., Floyd, M. R., McCord-Duncan, E., & Lang, F., (2008). Patients prefer the method of "tell back-collaborative inquiry" to assess understanding of medical information. *Journal of the American Board of Family Medicine, 21*(1), 24-30. doi:10.3122/jabfm.2008.01.070093

Miller, S., Lattanzio, M., & Cohen, S., (2016). Teach-back from a patient's Perspective. *Nursing, 46*(2), 63-64. doi:10.1097/01.NURSE.0000476249.18503

Paul, S., (2008). Hospital discharge education for patients with heart failure: what really works and what is the evidence? *Critical Care Nurse*, *28*(2), 66-82. Retrieved from: http://ccn.aacnjournals.org

Peter, D., Robinson, P., Jordan, M., Lawrence, S., Casey, K., & Salas-Lopez, D. (2015). Reducing readmissions using teach-back: enhancing patient and family education. *The Journal of Nursing Administration, 45*(1), 35-42. doi:10.1097/NNA.0000000000000155

Rasmusson, K., Flattery, M., & Baas, L. (2015). American association of heart failure nurses position paper on educating patients with heart failure. *Heart & Lung, 44* (3), 173-177. Doi:10.1016/j.hrtlng.2015.01.001

Roger, V. L.(2014). Epidemiology of heart failure. *Circulation Research, 113*(6), 646-649. doi:10.1161/CIRCRESAHA.113.300268.

Stromberg, A. (2005). The crucial role of patient education in heart failure. *The European Journal of Heart Failure*, 7(3), 363-369. doi:10.1016/j.ejheart.2005.01.002

Stewart, S. (2002). *Chronic cardiac disease: optimizing therapeutic efficacy in heart failure.* Philadelphia, PA.

White, M., Garbez, R., Carroll, M., Brinker, E., & Howie-Esquivel, J. (2013). Is "teach-back" associated with knowledge retention and hospital readmission in hospitalized heart failure patients? *Journal of Cardiovascular Nursing, 28*(2), 137-146. doi:10.1097/JCN.0b013e31824987bd

Xu, P., (2012). Using teach-back for patient education and self-management. *American Nurse Today, 7*(3). Retrieved from: https://www.americannursetoday.com/using-teach-back-for-patient-education-and-self-management/.

Appendix A

Summary of Studies Investigating the Correlation between the Teach-Back Method and HF Patient Readmissions

Author/Year	LOE	Study Purpose	Sample Description	Intervention	Study Outcomes
Kemp, E. C., RN, Floyd, M. R., EdD, McCord-Duncan, E., MD, & Lang, F., MD. (2008)	III	To determine patient preference between yes-no, tell back collaborative, and tell back directive.	Convenience sample from 2 waiting rooms in Northeast Tennessee. Sample size=100 adults with average age of 45 years.	Chosen subjects watched 3 patient education videos (yes-no inquiry, teach back collaborative, and teach-back directive) and filled out surveys indicating which one they would prefer.	The Tell Back-collaborative was perceived to be significantly more effective than the tell-back directive and the yes-no inquiry.
White, RN, M. NP; Garbez, R. PhD, RN, CNS, NP; Carroll, M. RN; Brinker, E. MSN, RN; Howie-Esquivel, J. PhD, RN, NP (2013)	II	To determine if hospitalized HF patients educated using the teach-back method retain self-care information and whether teach-back education was associated with fewer hospital readmissions.	Sample size= 276 patients aged 65 years and older admitted to the cardiology and medical services at the University of California, San Francisco.	Patients were educated by 2 heart failure RNs, asked 4 teach-back questions, education lasted on average of 34 minutes. Recall of teach-back was assessed in a telephone call 7 days after discharge.	The teach-back method showed a reduction in readmission rates, 14.9% (n = 41) of the 276 were readmitted and HF specific readmissions occurred in 3.3% (n = 9) of the sample.
Peter, D., MSN, & Robinson, P., MSN. (2015).	II	To determine effectiveness of the teach-back method in a quality improvement initiative within a Tertiary Magnet Facility.	180 HF patients at a 951 bed Magnet facility run by the Lehigh Valley Health Network.	Teach-back was used in every education encounter with HF patients.	The teach-back method was effectively implemented at the facility and readmission rates were lowered in heart failure patients. There was a 12% reduction in readmission rates, and reduction of length of stay for the second hospitalization and improved readmission rates thereafter.