

**LOW HEALTH LITERACY IMPACT ON HEART FAILURE PATIENTS’
READMISSIONS: AN INTEGRATIVE REVIEW**

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

Melissa S. Goodwin, MSN, RN, CNL, CMSRN

Liberty University

Lynchburg, VA

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Abstract

Heart failure is a common chronic disease that affects numerous people throughout the world. Low health literacy plays a critical role in heart failure mismanagement. The purpose of this systematic review was to summarize what is known about the impact of health literacy of heart failure patients' readmissions. MEDLINE, CINAHL, PSYCHINFO, and PUBMED databases were searched for the years 2010-2020 and for English language articles. The findings indicated that low health literacy has a significant impact on heart failure patients' unplanned readmissions. Interventions for low health literacy also affect outcomes for heart failure patients; for example, reduce unplanned hospital readmissions. Additionally, the teach-back technique is embraced by organizations, and an example is the Institute for Healthcare Improvement (IHI), which has a compelling strategy for affirming comprehension of health care effects in HF patients. More attention should be focused on assessing heart failure patients for low health literacy.

Keywords: health literacy, low-health literacy, heart failure, and teach-back

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I never walked alone on this journey, my God has left me, nor has he ever forsaken me, he had a plan for me, and it was not to fail. Jeremiah 29:11, for I know the plans I have for you declares the Lord, plans to prosper you and not to harm you, a hope and a future-THANK YOU!

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List of Abbreviations

Collaborative Institutional Training Initiative (CITI)

Congestive Heart Failure (CHF)

Cumulative Index Nursing and Allied Health Literature (CINAHL)

Doctor of Nursing Practice (DNP)

Heart Failure (HF)

Institutional Review Board (IRB)

The Joint Commission (TJC)

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)

United States (U.S.)

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Low Health Literacy Impact on Heart Failure Readmissions: An Integrative Review

In the past twenty years, the severe and widespread presence of heart failure has increased drastically and is a considerable health concern worldwide (Sany, Peyman, Zadehahmad, Ferns, & Doosti, 2019). In most recent years, awareness of the prevalence of remissions has been heightened, as well as financial penalties that accompany readmission rates (Kripalani, Theobald, Anctil, & Vasilevskis, 2014). The most expensive cause of morbidity and death in the United States (U.S.) is heart disease (Stevenson, Pori, Black, & Taylor, 2015). Congestive Heart Failure (CHF), also known as heart failure (HF), is the complex result of numerous structural or functional heart problems that impair the ventricles' ability to fill with, or eject, blood (Stevenson et al., 2015). Although about half of the individuals with heart failure die inside five years after diagnosis, early decisions and satisfactory treatment can extend the patient's life span and improve personal satisfaction. Additional chronic health care problems are often a factor for patients with heart failure, and most patients with heart failure are at the age of 65 or above. Characteristics of patients with heart failure consist of poor quality of life, debilitating symptoms, and readmissions (Rice, Say, & Betihavas, 2018).

More than five million people have some degree of heart failure in the United States. Yearly the U.S. must uphold the burden of health care costs of heart failure patients at approximately \$32 billion. Heart failure is the single most common reason for readmissions among older adults, resulting in 6.5 million days of stay in the hospital annually (Stevenson et al., 2015). Multiple literature reviews have shown that increasing rates of readmissions are associated with low health literacy. Heart failure patients have high rates of readmission due to several issues with non-compliance, such as medication nonadherence. Overseeing chronic heart failure requires a multifaceted approach and attentiveness as the course of the disease fluctuates.

"Health literacy, defined as obtained, understanding and using health information, may impact knowledge gained during heart failure education and patient adherence to self-care in heart failure" (Chen et al., 2013, p. 2). Patients with insufficient health literacy have less knowledge and are less likely to adhere to heart failure self-care treatment expectations. Low health literacy in heart failure patients has been founded to be challenging and costly. Health literacy includes the ability to understand complex vocabulary, share personal information with health care providers, make decisions about healthy lifestyle behaviors, and participate in self-care and chronic disease management at the same time as navigating a convoluted health care system (Evangelista et al., 2010). Developing a strategy to prevent hospital readmissions or, at minimum, decrease them is a current and relevant focus of healthcare today.

Background

Heart failure is a costly cardiovascular sickness to oversee and is a partner with significant mortality and morbidity, frequent hospitalizations, and low quality of life (Sany et al., 2019). The dialogue of hospital readmissions is commonly centered on cost ramifications; however, increased hospital readmissions are progressively perceived as representing poor quality of care (Callahan & Hartsell, 2015). Heart failure patients often have multiple factors contributing to their decline, resulting in hospitalization and decreased quality of life (Rice et al., 2018). One in five individuals will develop heart failure during their lifetime; roughly 1-3% of the adult population has been diagnosed with heart failure (Driscoll et al., 2016). Twenty to twenty-five percent of heart failure patients are readmitted for heart failure within one month of discharge. Under the Hospital Readmission Reduction Program of the Patient Protection and Affordable Care Act, hospitals with heart failure readmissions rates above the national average

incur a reduction of up to three percent in Medicare reimbursement (Upadhyay, Stephenson, & Smith, 2019).

Yearly, 825,000 new cases of heart failure are diagnosed, most of which are people 65 years or older (Cajita, Cajita, & Han, 2016). The incidence of heart failure increases with age. Patients hospitalized for heart failure have up to a 30% risk of readmission within 30-60 days post-discharge (Gilotra et al., 2017). Effective implementation of heart failure self-care is essential. Heart failure is a chronic disease that is complex and requires a substantial amount of self-care. Poor self-care, a significant contributor to hospital readmission, and the poor outcomes are associated with heart failure (Davis et al., 2012).

Low health literacy impacts education about self-care skills that are vital for a patient with heart failure to achieve desired outcomes (Evangelista et al., 2010). Patients with low health literacy are more likely to have adverse health outcomes at a rate of one point five to three times more likely (Dennison et al., 2011). The patient needs to be health literate and confident in identifying, understanding, and reacting to changes in their condition (King, 2011). Complexity of healthcare delivery, not the patient, is the issue with low health literacy (American Heart Association, 2020).

Health Literacy Skills and Health Outcomes

Health literacy not only involves the ability to read, but also to ask questions about care provided, understand written material with medical terminology, conduct simple calculations to take medications correctly, and the ability to negotiate with healthcare providers and insurance companies (American Heart Association, 2020). Many of the population affected by low literacy include ethnic minorities, those with low socioeconomic status, and those with limited education (Dickens & Piano, 2013). Communication failure opportunities are probable with healthcare

providers that treat heart failure, and the skillset to successfully navigate the health care system for Americans is only at twelve percent (American Heart Association, 2020). Health literacy limitations are characteristic among racial and ethnic minorities, older adults, those with limited English skills, and those with less education and financial stability.

Inadequate health literacy was significantly correlated with advancing age, being black, speaking Spanish, and having low education and income levels (Dickens & Piano, 2013). The main objective of heart failure management is to slow or stop the progression of the symptoms and preventing hospitalization (Rice et al., 2018). All clinicians should be aware of health literacy, understand how to assess it, and develop interventions addressing it in clinical practice (Dickens & Piano, 2013). Many health care providers do not use low health literacy techniques due to a lack of time and funding (Dickens & Piano, 2013). Improving self-management skills through disease management programs has shown favorable outcomes in adults with HF, particularly on symptoms wellbeing, daily activities, morbidity, and prognosis (Rice et al., 2018).

Adverse health outcomes are correlated with a higher frequency of emergency room visits, inadequate skills in taking medications, decreased capacity to manage chronic disease, lower rates of medication compliance, less ability to recall information after a clinic visit, higher rates of hospitalizations and death, and increased rates of hospital readmission within 30 days of discharge (Dickens & Piano, 2013). Guideline directed care can improve outcomes, heart-failure-related quality of life, and knowledge about their condition, as well as the lesser probability of self-care (American College of Cardiology, 2019). Hospitalizations of heart failure patients encumber much of the cost of the disease. Low health literacy is noted to accompany about half of all HF patients, even those considered to have average literacy (Manning, 2011). Lack of knowledge and understanding about HF and self-care has shown results of little self-care

maintenance and management behaviors (Davis et al., 2012). A patient must be an active participant in their care for optimal results.

One of the most critical public health issues in this century is health communication, interpersonal, or mass communication activities focused on improving the health of individuals and populations (Ishikawa & Kiuchi, 2010). Advancing patient understanding and prognostic data is a complex assignment because of various potential boundaries to accomplishing significant levels of comprehension, remembering confinements for both the degrees of patient healthcare literacy and healthcare clinician's capacities to convey complex healthcare information plainly (Kreps, 2018). Patients think they understand the health information provided to them when they may not fully comprehend relevant information (Kreps, 2018). It is essential to recognize the complexities of effective communication between health care providers and their patients and to make sure that patients' comprehension of relevant health information is valid (Kreps, 2018).

Patient Education in Health Care

The motivation behind patient training is to build the capability and certainty of customers for self-management (Bastable, 2016). The most significant activity of nurses as educators is to prepare patients for self-care (Bastable, 2016). The information needs of patients with heart failure can be evaluated by themselves or health experts (Yu, Chair, & Choi, 2016). An objective of health care insurance organizations is to improve the strategy for conveyance when instructing patients, relatives, and guardians or parental figures about prescriptions to improve the nature of patient care, patient satisfaction scores, and medical clinics (Nickels, Dolansky, Marek, & Burke, 2019) Noteworthy instruction should go past essential training, either verbally or utilizing handouts. It should incorporate techniques to assist patients with

picking up information aptitudes and the authority of the material provided (Rasmusson, Flattery, & Baas, 2015).

Nurses have many opportunities to provide healthcare instruction. They are the health care clinicians who have the most constant contact with patients and their families, are typically the most open source of data for consumers and are the most exceptionally trusted of all healthcare experts (Bastable, 2016). Effective teaching by the nurse can do the following:

- increase consumer satisfaction
- improve the quality of life,
- ensure continuity of care,
- decrease patient anxiety,
- reduce the complications of illness and the incidence of disease,
- promote adherence to treatment plans,
- maximize independence in the performance of activities of daily living, and
- and empower consumers to become actively involved in the planning of their care

(Bastable, 2016).

Patients and their families must have the option to deal with various health needs and issues at home, and individuals must be instructed on the most proficient method to care for themselves (Bastable, 2016). Clear instructions will help them get well and stay well.

Benefits of Patient Education

The prevalence of HF is anticipated to increase to greater than eight million by 2030 (Prasun, 2015). Regardless of the ongoing new advances in HF, nurses must proceed with assuming a significant role in evaluating, observing, and giving patient care while improving results. There are about 3.4 million enlisted registered nurses in the U.S., vast numbers of whom

will give care to heart failure patients (Prasun, 2015). Nurses are in essential positions and can altogether affect the results of heart failure patients and their families.

Self-care includes the activities attempted by a patient to maintain life, healthy activities of living, and prosperity. Self-care in patients with HF supports decrease unplanned hospitalizations, direct and indirect health care expenses, and increases the patient's autonomy (Koirala et al., 2018). Instructing and learning are methodical, intelligent, arranged, and deductively based. The activities identified with instructing patients incorporate educating and learning and include two related players: the student and the instructor (Bastable, 2016).

Health Literacy Barriers in Patient Education

Health literacy is defined as "the degree to which individuals can obtain, process, and understand basic health information and understand basic health information and services needed to make appropriate health decisions" (Cajita et al., 2016, p. 121). Thirty-six percent of adult Americans and 59% of adults 65 years or older have below basic or basic health literacy (Cajita et al., 2016). Approximately 89 million adults are not able to understand the information provided to them by their healthcare team (Scott, Andrews, & Loerzel, 2019). Heart failure continues to be linked with frequent hospitalizations, and loss of life expectancy happens when the patient does not follow the therapeutic recommendations (Razazi et al., 2020). Health literacy is perceived as an essential pointer in healthcare results and costs. People with a low-level of health education are less inclined to comprehend the composed and spoken information provided by healthcare experts and complete the instructions given along these lines. As a result, they bear increasingly high medical expenses (Razazi et al., 2020). A patient-centered approach to health literacy should be employed, given the vast differences in patients' understanding of HF management (Sperry, Ruiz, & Najjar, 2015). Health literacy education has advanced from an

ineffectively perceived "silent epidemic" to a significant issue in health policy and change (Hersh, Salzman, & Snyderman, 2015). Shorter hospital stays, polypharmacy, different medical service providers, and the rising ubiquity of persistent illness add to the expanding role patients have in dealing with their care (Hersh et al., 2015).

Those with low health literacy have a difficult time transitioning home from the hospital due to confusion and feeling overwhelmed (Scott et al., 2019). The patient's nonadherence is usually from misunderstanding because an extensive amount of medical information is forgotten immediately after discharge (Yen & Leasure, 2019). When the discharge instructions are not understood clearly, complications can arise, and medication errors and readmissions increase (Scott et al., 2019). The teach-back method helps to reduce the patient's misunderstanding. The promotion of health literacy enhanced with reliable communication allows patients to participate in their learning and care (Scott et al., 2019). Patients play an essential role in their health, and they must be able to understand the information provided to them about their health as it has a significant impact on their health behavior and outcomes (Yen & Leasure, 2019).

The anxieties of confronting being ill can have a very undesirable influence on levels of health literacy, making it hard for health care providers to explain complex health issues to patients (Kreps, 2018). Patients may also be afraid to admit they do not understand the information conveyed to them. One national study showed 50% of patients with chronic severe diseases were not taking medications as prescribed, often because they misunderstood the information they were provided (Kreps, 2018). A critical component of effective communication in health care is assessing patient understanding, and healthcare providers are essential elements of all healthcare systems, including patient education (Holman, Weed, & Kelley, 2019). Verbal communication between clinicians and patients has been shown to affect patients' knowledge,

motivation, decision making, engagement, empowerment, and even health (Nouri & Rudd, 2015).

Knowledge of self-care behaviors and the disease is essential for self-care, and insufficient knowledge has been associated with poor self-care behaviors (Wu et al., 2017). Inadequate self-care has been identified as a significant contributor to hospital readmission and the poor outcomes associated with heart failure (Davis et al., 2012). The lack of knowledge about heart failure and self-care has been shown to result in poor self-care maintenance and management behaviors (Davis et al., 2012). Hospital readmissions can negatively impact cost and patient outcomes (Felix, Seaberg, Bursac, Thostenson, & Stewart, 2015).

Communication and Cultural Competence

Positive patient results rely on clear communication and comprehension. People with low education are progressively inclined to unforeseen poor health. Patients reserve the option to health data to help with making educated choices (Polster, 2018). Nurses must continue to enhance their education and skill set to address rising populace needs, but patients and family medicinal services beliefs and practices may differ from their own (Polster, 2018). Successful communication procedures are a necessity in Healthy People 2020 to improve populace wellbeing and accomplish wellbeing value. The Joint Commission (TJC) demands extra preparation and usage of assets tending to address cultural competence and wellbeing imbalances that undermine persistent patient care healthcare practice (Polster, 2018). Return demonstration can support abilities gained from the nurse.

Teach-Back Method

The Teach-back method confirms the information given was received correctly. It is valid for improving patient understanding and reducing readmissions (Miller, Lattanzio, & Cohen,

2016). During an office or hospital visit, patients and families forget between 40- 80% of medical information shared (Clem, 2018). Face-to-face observations are one way to ensure clinical nurses deliver education appropriately. Nurses should incorporate the teach-back method in their daily practice, allowing patients to answer questions, discuss concerns, and clear up any misconceptions. Many patients say they understand even when they are not sure (Bodenheimer, 2018). Physicians often overestimate how well patients understand their discharge plan (Bodenheimer, 2018). Teach-back is one way the "loop" could be closed. Teach-back is reserved for only the essential details, not to emphasize every detail of a care plan. Teach-back does more than improve medication adherence, and it could improve understanding of diagnoses, prognoses, physical rehabilitation, care options, and patient outcomes.

Teach-back can be effectively completed in one to two minutes. The health care provider should let the patient know his or her knowledge is not being tested; instead, providers can communicate that they simply, want to know if they did an excellent job explaining the health information. Teach-back improves a patient's comprehension of health data, level of trust, and patient fulfillment (Nickles et al., 2019). Improving information and aptitudes learned by teach-back gives an increasingly precise evaluation of printed and verbal training (Polster, 2018). Nurses can help improve patient adherence to self-care behaviors with the use of the teach-back method to assess and correct the patient's understanding of information (Dastoom, Elahi, Baraz, & Latifi, 2016).

When healthcare professionals use the teach-back method, families leave with confidence and a clear understanding of their care. It confirms the patients' understanding of what was explained to them. Main teach-back points include:

- explaining information clearly

- demonstrating techniques, procedures, exercises, and equipment
- asking the patient to explain in their own words what was taught to them
- reinforcing what the patient knows and teaching them new information, and
- researching health literacy interventions promoting adherence, quality, and patient safety (Clem, 2018).

Although teach-back is not a new teaching strategy, many nurses have not been educated on how to use teach-back effectively (Prochnow, Meiers, & Scheckel, 2018).

Problem Statement

Health literacy has gained more attention in recent literature, as many researchers have discovered that low literacy is associated with less knowledge and poor self-behaviors (Wu et al., 2017). Patients with limited health literacy have inadequate medication adherence and lack self-care behavior (Fabbri et al., 2018). Patients must know self-care behaviors because heart failure and deficient knowledge have been correlated with poor self-behaviors (Wu et al., 2017). It has been reported that there is an association between poor health literacy, mortality and morbidity, frequent hospitalizations, poor quality of life, and increased cost (Sany et al., 2019). As of now, heart failure is the most widely recognized reason for readmission in both the medical and surgical populaces with practically 20% of Medicare patients being readmitted inside 30 days (Sperry, Ruiz, & Najjar, 2015).

A significant role for care managers lies in the capability to effectively decrease the fragmentation of care delivery across the entire continuum, and increase the quality of care provided (Ellsworth, 2015). High hospital readmissions are progressively perceived as poor quality of care (Callahan & Hartsell, 2015). Health literacy is poorly assessed among heart failure patients resulting in poor management and increased unplanned hospitalizations.

Purpose of the Scholarly Project

The purpose of this scholarly project was to determine if an appropriate intervention or strategic initiative exists that can decrease hospital readmissions for low health literacy patients with heart failure in any setting. The teach-back method intervention supported optimal outcomes, increased patient satisfaction, and positively impacted unplanned readmissions among heart failure patients. Effective discharge education could decrease heart failure patients' readmissions.

Significance of the Project

Health care clinicians must pay close attention to health literacy among heart failure patients because there are ways to help reduce the effect of chronic heart failure and improve the quality of life for patients. With an estimated total of 5.7 million people living with heart failure and an added cost of about 32 billion dollars annually, recognizing and initiating appropriate measures for the integration of health literacy in daily care delivery is vital. This project will use the following facts to support its purpose:

- 1) The need for clinicians to recognize low health literacy in patients with heart failure
- 2) Health literacy is often under detected
- 3) Health literacy education guidelines and/or standards are lacking for heart failure patients

Clinical Questions

The following clinical question addressed in this integrative review: Does the use of the teach-back method with patients diagnosed with heart failure decrease readmission rates? The following supporting questions served to focus on the review:

- 1) What is the teach-back method?
- 2) How are heart-failure outcomes affected by the teach-back method?

Project Goals

The goals of this project were:

- 1) To provide a systematic integrative review of the research on the impact of using the teach-back method on heart failure patients with low health literacy to decrease unplanned readmissions.
- 2) To provide evidence-based recommendations for future research and tool development to inform and practice.

Methods

An integrative review approach is broad, sampling is diverse and includes empirical or theoretical literature, or both (Toronto & Remington, 2020). The methodology for the integrative review used the robust conceptual framework by Whitemore and Knafl (2005) and Toronto and Remington (2020). To maintain rigor and decrease bias and inaccuracy processes suggested by researchers were closely followed. The primary goal of an integrative review is to create a better understanding of a topic through synthesis of diverse sources (Toronto & Remington, 2020). True synthesis results in new meaning and knowledge transformation. An integrative review of the literature was conducted to consider acknowledging the impact of low health literacy on heart failure patients' readmissions. This integrative review is specifically striving to summarize past research and present a current state of knowledge that focuses attention on issues that research has not resolved (Toronto & Remington, 2020). This integrative review was used to build nursing science and practice. The Institutional Review Board (IRB) approval was requested and approved for this research project. An IRB letter of approval was obtained and placed in

Appendix C. The Collaborative Institutional Training Initiative (CITI) training was accomplished in support of promoting quality in the setting of the integrative review (See Appendix B for training certificate). The research will focus on low health literacy of heart failure patients and its impact on hospital readmissions.

Framework

Aiming to meet the same standards as primary research, integrative reviews require methodical rigor, which is reinforced by a detailed framework. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for critiquing evidence was the framework for the scholarly project. The updated methodology of integrative reviews documented by Whitemore and Knafel (2005) and the step-by-step guide to conducting an integrative review by Toronto and Remington (2020) were the overarching framework for the proposed project.

PRISMA Statement. The purpose of the PRISMA statement is to aid authors in improving the reporting of systematic reviews and meta-analyses (Moher, Liberati, Tetzlaff, Altman, & PRISMA Group, 2009). The 27-item checklist and four-phase diagram were used to report information out. A flow diagram was used to identify the number of records from database searching, records included and excluded, and the reason for exclusion (see Appendix A for PRISMA flow diagram). Items included in reporting are guided by the PRISMA 27-item checklist, which supports the documentation of items deemed necessary for the transparent report of systematic reviews.

Toronto and Remington. Whitemore and Knafel (2005) stated, an integrative review is a specific way to review summaries of past empirical or theoretical literature to provide a complete understanding of a specific health problem. This scholarly project exclusively identified health

literacy's impact on heart failure readmissions. The raised awareness for the subject matter was conducted in six steps: (a) formulation of purpose and/ or review questions, (b) systematic search and literature selection, (c) quality appraisal, (d) analyses and synthesis, (e) discussion and conclusion, and (f) dissemination of findings (Toronto and Remington, 2020).

Problem Formulation Stage

In this stage the problem and variables of interest were clearly identified (Whittemore & Knafl, 2005) . The variables for this project included low health literacy, specifically for use in patients with heart failure, health clinicians' knowledge for needed support of the care of heart failure patients, low health literacy impact on heart failure patients' outcomes, and use of the teach-back method. Poor health literacy compromises instruction about self-care skills that are fundamental for patients with heart failure to accomplished desired results (Evangelista et al., 2010). It is important to decrease any uncertainty in the integrative review by clearly describing what is meant by the variables and how they are used in the review (Toronto & Remington, 2020).

The purpose of this scholarly project was to raise awareness for low health literacy among heart failure patients, increasing knowledge to help reduce hospital readmissions. The review should be able to answer who, what, when, where, and how. The stated review questions based on the development of the introduction and background, set the stage for the mission of the integrative review (Toronto & Remington, 2020).

Data Collection

The reason for an in-depth search is to limit bias in conclusions; therefore, it is critical to review the search process, clearly define and document in the effort to support enhanced rigor and the most complete unbiased results (Whittemore & Knafl, 2005). The literature search

should be methodical in its approach and extensive utilization of least two strategies, allowing for the maximum number of eligible sources (Toronto & Remington, 2020). Whittemore & Knafl (2005) have noted that, obtaining relevant literature can be challenging. Information sources and eligibility criteria were clearly defined to support the data collection.

Information Sources. The primary sources used to search for research evidence included searching in reference listed databases and using a lineage approach, and a descendant approach. A broad-based approach helps to diminish bias and to retrieve as much pertinent literature as possible (Toronto & Remington, 2020). The bibliographic search system for the review incorporated a thorough, computer-assisted search of PsycINFO, Cumulative Index of Nursing and Allied Health Literature (CINAHL), PubMed, and Medline from 2010- 2020. The timeline selected allowed for the inclusion of research that progressed over ten years. The parentage approach allowed for the assembly of citations from previous studies on the same subject. A descendancy approach was also used to find studies that cited the fundamental studies identified.

The data sources were formulated using keywords and phrases. Keywords and phrases used for the search included: low health literacy, health literacy, heart failure readmission, and teach-back, and patient outcomes in no set order. The search was expanded using Boolean operators.

Eligibility Criteria. Data collection was further supported by defining eligibility specification, which identifies a target audience, setting, and inclusion specification. The target audience for this scholarly project were health care clinicians and patients. The population for this review was adults 18 years of age and older, living with heart failure and low health literacy requiring self-care and management. The inclusion of a target audience allowed for generality throughout the continuum of care. All setting types will also be considered as part of the eligibility criteria for

the project. Data collection will be further supported by determining inclusion and exclusion criteria (Table 1).

Inclusion criteria for this project included articles published in 2010 to the current year, and relevant to identifying and implementing tools to improve outcomes of heart failure patients with low health literacy. This included journals from the United States and abroad. Exclusion criteria incorporated any journal articles that were not peer-checked and any articles more noteworthy than ten years. The final articles were inspected for meticulousness and level of proof (Toronto & Remington, 2020).

Literature Search Results

The literature search results identified 516 references. No other articles were identified through other sources. Duplicate articles were removed from the review. Once the duplicates were eliminated, titles and abstracts were reviewed. Other articles were excluded that did not meet the established selection criteria. The critical review of the 16 studies are available in a table (Table 2). The study design was determined to be qualitative.

A comprehensive search was conducted utilizing five separate databases, CINAHL, PsycINFO, PubMed, and Medline, which were searched with specific keywords to expand upon all pertinent and current research on the impact of low health literacy on heart failure patients' readmissions. Keywords that were used, included, heart failure, low health literacy, teach-back and heart failure readmissions. Leading a research review encompasses a problem formulation stage, a literature search stage, a data evaluation stage, a data analysis stage, and a presentation stage (Whittemore & Knafl, 2005).). After consulting Melnyk's hierarchy of evidence, the 16 articles accessed involved 15 primary resources and one secondary source. A range of levels of evidence existed among the 16 articles utilized for the integrative review with two articles being

at Level II and two at Level Randomized Controlled Trial (RCT). One Level III design was included. Level IV evidence designs include two level V designs, and finally seven level VI designs. According to a hierarchy of evidence rating system, sources were leveled, I-VII, respectively.

Data Evaluation Stage

Key discernments about the data to report in the selected literature were made in the data evaluation stage (Whittemore & Knafl, 2005). Empirical and conceptual sources, as well as both primary and secondary sources were included for evaluation. Two standards were considered in evaluating the quality of data sources involved: *methodological rigor* and *informational value*. According to Whittemore and Knafl (2009) there is no gold standard for evaluating and interpreting quality in research reviews. The quality of sources for the integrative review were addressed in a meaning way utilizing the PRISMA checklist and critiquing guidelines suggested by Toronto & Remington (2020).

Data Analysis Stage

The data analysis stage involved the data from primary resources ordered, coded, categorized, and summarized from the selected articles (Whittemore & Knafl, 2005). Records were retained throughout the entire data analysis process to ensure analytical integrity, as well as process transparency were consistently applied (Whittemore & Knafl, 2005). A literature review protocol was also used to categorize various aspects of the studies in a systematic manner. Each source was cited, and a research focus was initially collected and recorded.

"Toronto defines synthesis as a creative process that generates a new model, conceptual framework, or other unique conception informed by the author's intimate knowledge of the topic" (Toronto & Remington, 2020, p. 57). According to Whittemore and Knalf (2005) there are

four processes with which to define further the evidence found in an integrative review comprising data comparison and ultimately verifying and drawing a conclusion.

To categorize various aspects of the studies in a systematic manner, a literature review protocol was used. Each source had a citation and research focus. Information regarding the sources' conceptual foundations, methodological features, evaluation information, and support for specific clinical questions was recorded steadily across studies. According to Whitemore and Knafl (2005) this approach is most favorable with the use of varied data from diverse methodologies. This study was not specific to a definite research design and included the results from various types of studies.

A qualitative analysis was most appropriate. The qualitative analysis involved a results matrix to support refined themes with the results. Table 2 presents the sixteen studies used to discern themes. The approach was systematic and will further consist of data reduction, data display, data comparison, conclusion drawing, and verification (Whitemore & Knafl, 2005).

Data Reduction. The first stage, data reduction, alludes to choosing, focusing, improving, and abstracting information from the sample of essential sources. Data reduction sorts out the information from the essential sources so the aftereffects of the review can be drawn and confirmed (Toronto & Remington, 2020). This can be done based on a timetable, chart or graph, subject matter, inclusion criteria, or setting, but serves to begin the arduous process of paring down the extensive data about low health literacy's impact on heart failure readmission. Condensing a large amount of information to a reasonable measure of data requires different procedures that will serve to remove the most significant data; at that point, arrange it where the project leader sorted for criticalness and pertinence guaranteeing that rigor is maintained

(Whittemore & Knafl, 2005). At this point, a concise organization of the literature was vital to systematically compare the study's variables (Whittemore & Knafl, 2005).

Data Display. The data display considers a compacted introduction of the data from the example and encourages conclusion drawing (Toronto & Remington, 2020). For the data to be efficiently investigated, it was essential to show the extracted information in some type of grid, structure, or tables to observe patterns and exceptions handily. A table (Table 2) was made to compare the level of evidence, setting, and populace, type of error, and factors, for the study. Showing the information in vertical columns for examination heightened the process of discerning patterns and trends and enhanced the imagery to begin the analysis process.

Data Comparison. This final phase of data analysis involved examining the data display for patterns, themes, commonalities, and differences across the review sample (Toronto & Remington, 2020). The table was built with all relevant, usable information, and the extraction of data patterns was recognized and analyzed. It was essential to find the supporting data for the empirical and theoretical frameworks that have been the platform for identifying the impact of low health literacy on heart failure patients' readmission. Alike themes were grouped so that they illustrate relationships. The process of data visualization and comparison supported earlier interpretive efforts and brought more meaning to the review findings.

Conclusion Drawing and Verification. The final process involved verification, and it was vital. The verification procedure may incorporate a return to the sample sources to affirm the honesty of the conclusions or may include the affirmation of the recognized patterns, topics, and connections by colleagues (Toronto, 2020). Possible procedure bias was reviewed to decide whether the data was exhaustively and thoroughly explored to ensure essential information was included for the final examination and summation. No bias was found. The project leader

anticipated common themes surfacing through the synthesis procedure and formed a calculated initiative to take to the following level in the process of executing policy change.

Presentation of Results

There are two presentations of results for this project: a flow diagram and tables. A flow diagram was developed to highlight the systematic approach of the literature search and screening for the inclusion of sources. Details from the sources and evidence to support the conclusion were reported in narrative format. The tables allow the readers to better assess the basis for conclusion drawn and make key evidence easily discernable. The table was organized to include evidence, sources, background information, conclusions and recommendations.

Evaluation Methods

The project leader and chair unceasingly evaluated the Scholarly Project to ensure that the evolving document-maintained thoroughness and met the requirements of the Doctor of Nursing Practice (DNP) at Liberty University. References and resources were referred to continue to maintain the integrity of the project's process by the project leader. The final summary and conclusion were examined, and any bias was identified. It is essential to evaluate the necessity of the implementation when a strategy is founded, and initiatives should be implemented in real-time. A notation is imperative when any part of the plan needs revision or updating during the entire phase of dissemination and implementation. Growth and development take place as new evidence is uncovered, enhancing the work.

The clinical audit process is one way to evaluate the new initiative. The clinical audit review encompassed estimating a clinical result or a procedure, against all well-defined standards set on the doctrines of evidence-based medicine to understand the necessary changes expected to improve the quality of care (Esposito & Canton, 2014). It is vital that the

organization identifies the resources available for data collection and training of the clinical staff. The determination relevance of the project question arose from the extensive evaluation of the articles. The style of study conducted within the research, the method that was utilized, and precise inclusion and exclusion criteria within the study were the specific elements discerned. The PRISMA flow chart took into consideration the inclusion and exclusion measures to help in eliminating articles that would not support the project (Moher et al., 2009). The project leader included the flow chart in the Appendix A. The PRISMA checklist was instrumental in deciding the legitimacy and nature of each article evaluated (Moher et al., 2009).

Melnik's hierarchy of evidence was used to determine the Levels of Evidence (Melnik, 2011). While looking for evidence-based data, one should choose the most significant level of proof conceivable as the Hierarchy of Evidence in a pyramid with the highest being the most reliable kind of study, and the lowest being the weakest evidence. It is suggested to work from the top down.

Results

Study Selection

The main objective of this stage was to provide an extensive and unbiased analysis of the primary sources, combined with the synthesis of the extracted data to support the conclusion (Whittemore & Knalf, 2005). The refinement of the inquiry and the audit of the writing was an iterative procedure that is recursive, with the ideal endpoint being a thoroughly refined inquiry with a coordinating survey of the writing (Toronto & Remington, 2020). The project leader found over 500 potential articles that were identified through databases that included CINAHL, PubMed, Medline, and PsycINFO. The search and screening process allowed for a flow chart to be created. The flow chart started with a list of potentially relevant articles identified through the

following databases CINAHL (131 articles), PubMed (181 articles), PsycINFO (44 articles), and MEDLINE (160 articles) giving a total of 516 easily identifiable articles. Duplicated articles through the multiple databases was removed immediately, leaving 375 articles. Then a thorough scrub was completed to leave only those articles that predominantly addressed the clinical question. In that process, 309 articles were excluded. The 66 remaining articles were then screened for eligibility using the inclusion and exclusion criteria, excluded with reason. The remaining articles were included in this integrative review for a total of 16 peer-reviewed studies addressing the impact of low health literacy in heart failure patient's readmissions in the adult populace. (See Appendix A)

The integrative review included blended approaches as some were subjective, and some quantitative investigations were recognized in the essential sources. A table (Table 2) was used to recognize similarities and contrasts as the articles were investigated and synthesized. The PRISMA Checklist was chosen as the apparatus to decide whether there was sufficient proof to help an evidence-based practice change that would be directed, assessed, and disseminated to implement change in clinical practice to bring positive results.

The methodology utilized in this integrative review was a blend of the framework recommended by Whittemore and Knalf (2005) and Toronto and Remington (2020) as well as the Preferred Reporting Items for Systematic and Meta-Analysis (PRISMA, 2009). A refreshed integrative review strategy offers an approach to more extensive and increasingly diverse research strategies that will enhance more prominent evidence-based practice initiatives (Whittemore and Knalf, 2005). One of the benefits of an integrative review is the technique allowed for several types of research, including test, non-test, hypothetical, and empirical, when exploring information of a trend (Whittemore and Knalf, 2005).

Study Characteristics

The issue addressed by this integrative review was whether an opportunity exists through a recognized intervention to decide the impact of low health literacy on heart failure patients' readmissions. At this point, it was imperative to scrutinize the inclusion and exclusion criteria to form beyond any doubt that vital studies were included. Integrative reviews contributed to nursing knowledge by simplifying phenomena from the evidence produced and, in turn, informing nursing practice and clinical guidelines (Toronto & Remington, 2020) No bias was found inside or across studies that would interfere with the integrity or thoroughness of the final articles chosen for review.

Results of Individual Studies

Decreased knowledge of one's medical condition, poor medication recollection, nonadherence to treatment plans, poor self-care behavior, compromised physical and mental health, increased risk of hospitalization, and increased mortality are associated with low health literacy (Evangelista et al., 2010). It is noted in (Dennison et al., 2011) that adequate health literacy was linked with higher heart failure knowledge and self-care confidence in hospitalized patients. Heart failure patients possessing stronger health literacy influence knowledge about health failure, but not self-care adherence (Chen et al., 2014). Chen et al. (2013) suggests that having adequate healthy literacy supports heart failure knowledge over time.

Several studies determined that low health literacy does affect heart failure patients' knowledge. Insufficient knowledge of medication adherence can cause hospital readmissions (Centrella-Nigro et al., 2016). The study by (Razazi et al., 2020) recognized that knowledge has significant ties to health literacy. The more knowledge of the chronic disease process, the better the patient can care for themselves. Low health literacy is modifiable to reduce early, unplanned

hospitalizations after discharge (Mitchell, Sadikova, Jack, & Paasche-Orlow, 2012). Health literacy is a fundamental measurement for surveying the person's needs and, significantly, their ability for self-care (Westlake, Sethares, & Davidson, 2013). According to Stamp (2014), three factors played a role in increasing heart failure hospital readmission: increased admissions per bed, teaching hospitals, and poor nurse communication with patients. Lower health literacy was closely connected to higher all-cause mortality (Peterson et al., 2011).

Readmissions decreased with the use of the teach-back method when assessing a patient's knowledge of a chronic condition (Almkuist, 2017). Patients should play a vital role in their decision making because half of heart failure readmissions are preventable (Gilotra et al., 2017). Higher heart failure knowledge was consistently associated with adequate health literacy. Patients that have adequate health literacy and provider follow-up required fewer hospital readmissions. Research has shown that there is a direct correlation between health literacy and health outcomes.

According to Oh, Lee, Yang, and Kim (2019), 30-day readmissions decreased using discharge education of the teach-back method. The use of the teach-back method helped patients to retain disease-specific knowledge, allowing for better adherence to the treatment regimen (Almkuist, 2017). Patients indicated improved satisfaction with medication education, discharge information, and the management of their health with the use of the teach-back method (Yen & Leasure, 2019).

Synthesis of Results

The literature results demonstrated that a problem exists related to the impact of low health literacy and heart failure patients' hospital readmissions. A solid foundation was presented on which to build an argument for quality measures to facilitate reducing readmission of heart

failure patients with low health literacy. Establishing a key strategy permitted the evidence in this integrative literature review to be brought to the patient in any setting. It also allowed clinicians to connect in a safe environment for the improvement of positive patient results.

Discussion

Summary of Evidence

It is essential to determine why dissemination is necessary before establishing how it will take place. Evidence-based practice has become an exceptionally recognizable expression in healthcare in general and explicitly among those tasked with the errand of conveying positive patient results. Given that achieving improved patient results is the reason patients enter the healthcare system, nurses must be sure their confidence in their care technique will unfailingly achieve the best outcomes.

Dissemination depends on the type of audience that it is intended for and can occur in several forms (Toronto & Remington, 2020). Approaches for dissemination included peer-reviewed publications, poster presentations, professional seminars, and social media. Published research raises awareness and has a significant impact on patient outcomes. The goal of the integrative review was critical analysis and synthesis of diverse literature to advance knowledge on how using the teach-back method on low health literacy patients with heart failure can impact unplanned readmissions and patient satisfaction. It can be used to enlighten practice and program planning.

Information gaps recognized in the audit illuminated future research, particularly when errors were found. The audience ranged from scholars, to practitioners, to policymakers, to the general public, thus increasing the scope of the usefulness of the integrative review method (Toronto & Remington, 2020). One of the obstructions that existed was whether the parent

organization or any network partners were equipped with the correct assets and fitting relational abilities to be influential in spreading the examination discoveries. In the United States, only 12% of the 228 million adults have the skills to manage their health care proficiently (Evangelista et al., 2010). Diminished health literacy had higher emergency care among patients with heart failure (Westlake, Sethares, & Davidson, 2013). Two specific strategies to decrease the impact of low health literacy on heart failure patients' readmissions in the adult patient population arose from the literature review. First, clinicians must recognize the characteristics of low health literacy, and secondly, they must have tools in place to assist patients at their current level of health literacy.

Limitations

Organizational preparation for a change in healthcare settings was a significant factor in the successful usage of new policies, projects, and practices. At the point when organizational change is high, individuals are bound to start change, exert more considerable change, show more noteworthy determination, and show progressively agreeable conduct (Shea, Jacobs, Esserman, Bruce, & Weiner, 2014). One aspect of readiness, change commitment, reflects organizational members' collectively resolve to implement a change. Change adequacy is high when hierarchical organizational members know what to do and how to do it, when they see they have the resources needed to execute the change, and when they see situational factors to be favorable (Shea et al., 2014).

A lack of cooperation from the target audience could be a barrier to the project. The proposed change will affect nurses and providers directly, and they may not see the work regarding the strategic plan as creditable, useful, or worthy of implementation. The targeted audience must be in partnership in planning the project and receiving feedback, to move to

project forward. In addition to the limitations, it should be remarked that there was only one reviewer for this project.

Implications for Research

Additional research is needed to further explore health literacy's impact on heart failure patients, educational guidelines for clinicians, and guidelines specific to education. The added review of research sought to further uncover low health literacy issues' effect on heart failure patients that research has left unresolved and could further support. Sequentially, this can build upon nursing science, advise further research, and facilitate initiatives that will give acceptance to a call to action for health care clinicians.

Implications for Practice

Nurses and other health care professionals must recognize that low health literacy is widespread and begin to implement strategies that can possibly mitigate the impact of low health literacy when communicating with patients with heart failure. Future studies might consider the use of a more comprehensive measure of health literacy, one that measures all the elements of health literacy and not just reading comprehension. In future studies, other factors may influence heart failure self-care, such as motivation to perform self-care. Patients' skills set need improvement for effective self-management, such as how to use diuretics and monitoring weight daily. When clinicians address patients and their families about health information, health literacy should be taken into consideration. Patients make decisions about their care based on values, beliefs, and their understanding of the information that they have been given.

Conclusion

An integrative review method on the impact of low health literacy on heart failure patients' readmissions served to summarize past empirical and theoretical literature. The review

method used different strategies to capture the unique situation, processes, and emotional components of the theme and afterward exhibited how this could be applied to clinical practice and evidence-based activities by a method for approaching change. Procedure development for interventions for low health literacy's impact of heart failure patients has been evaluated for its potential for bias and lack of thoroughness; therefore, the project leader thoroughly developed the integrative review to allow for various viewpoints on initiatives to reduce hospital readmission in heart failure patients. The literature revealed that many interventions have been put in place in various settings, although they were not emphasized as an expectation for the treatment of heart failure patients. Effective education and ensuring patient understanding of the discharge plan could decrease the possibility of readmission by 30%.

Evidence-based practice does have a tremendous impact on practice for nurses in clinical, administrative, and education settings. Research that is translated into practice that improves safety for patients improves quality and outcome. Effective communication is the establishment of any health care team that showed improvement in outcomes. Utilizing evidence-based techniques for varying patient understanding, for example, the teach-back strategy, helps to guarantee patients comprehend data about their medications, methods, tests, and therapeutic tools (Polster, 2018).

Inattentiveness to the severity of the problem (a lack of health literacy in patients) stems from inadequate systematic approaches. One of the most significant system failures is poor communication. Health care employees today recognize that poor communication is one of the most predominant issues in medicine (Taran, 2011). The clinical question must be revisited when condensing the entire integrative review process to a definite identifiable answer. Does the use of

the teach-back method with patients diagnosed with heart failure decrease readmission rates and patient satisfaction? The answer is yes, according to the integrative review.

The first approach involves clinical staff identifying the level of health literacy on all heart failure patients. This means that organizations must have some tools for assessing health literacy. The second approach would have tools in place to educate the heart failure patient appropriately at their level of learning. Staff must understand how to use the teach-back method properly to be effective. Patient teaching is valid with the use of the teach-back method (Centrella-Nigro & Alexander, 2017). It was found that self-care behaviors may not be correlated to health literacy, but research does show that self-efficacy is related to health literacy. Further research is needed on implementing a pilot on assessing, educating, and communicating well with heart failure patients with low health literacy, documenting the data, comparing the data quarterly to look for trends and evidence that the initiative is working, and thus, the results can be disseminated across the organization. The dissemination would be instrumental workings by educator staff.

Advanced practice nurses play vital roles in the impact of quality outcomes including the redesigning, evaluation, and dissemination the findings of quality improvement projects to promote safe, cost-effective, and efficient patient outcomes (Sherrod & Goda, 2016). Nurses play a vital role in affecting healthcare outcomes, and they should promote healthcare literacy by improving how medical information and self-care instructions are provided (Ahrens & Wirges, 2013). Heart failure is a complex chronic disease that has the close attention of policymakers due to high morbidity and mortality rates (Peterson et al., 2011). Once the project is disseminated and a plan has been implemented, a decrease in hospital readmissions will prevail, supported by real-

time data, and the validity of the integrative review will be proven. New practice models for the delivery of quality care will be required for the future of health care (Walker & Polancich, 2015).

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Table 1*Inclusion and Exclusion Criteria*

Inclusion	Exclusion
Publication from 2010-2020	Publications prior to 2010
Subjects aged 18+	Subjects under 18 years of age
Health care workers (Physicians, nurses, nurse practitioners, advanced practice nurses)	Health care workers not listed in the inclusion definition
English Language	Non-research articles (i.e. commentaries, editorials, briefings, fact sheets)
Full-text articles	Abstract articles only

Table 2

Table of Evidence

Results Matrix Low health literacy/ Heart Failure Readmissions/ Teach-Back Method

Focus of Articles Author/year	Level of Evidence/Source	Low Health Literacy/ Heart Failure/	Conclusions/ Practice Implications/Recommendations
Evaluated the association between low health literacy and all-cause mortality and hospitalization among outpatients with heart failure. (Peterson, et al., 2011)	IV/ Primary	<ul style="list-style-type: none"> • Two thousand one hundred fifty-six heart failure patients surveyed with health literacy questions. • All patients were enrolled in Kaiser Permanente of Colorado. 	<ul style="list-style-type: none"> • Heart failure patients with low health literacy were significantly linked with higher all-cause mortality. • Screening questions could help identify heart failure patients vulnerable to adverse outcomes.
Evaluated published studies on factors affecting heart failure self-care and discuss the implications of the findings for heart failure disease management. (Koirala et al., 2018)	V/ Primary	<ul style="list-style-type: none"> • Twenty studies reviewed to evaluate factors affecting heart failure self-care under four groupings (personal factors, problem-related factors, and environmental factors). • A convenience sample of 20 studies reflecting coexistent heart failure management and treatment. 	<ul style="list-style-type: none"> • We identified a need to focus on patients with heart failure in low- and middle-income countries and described social determinants of health and various confounding and modifying influences of the factors of heart failure. •

Focus of Articles Author/year	Level of Evidence/Source	Low Health Literacy/ Heart Failure/	Conclusions/ Practice Implications/Recommendations
Examined the impact of health literacy on hospitalized and death in a population of patients with heart failure. (Fabbri et al., 2018)	VI/Primary	<ul style="list-style-type: none"> • The sample size of 5121 across the 11-county region in southeast Minnesota. • They were prospectively surveyed to measure health literacy using established screening questions. 	<ul style="list-style-type: none"> • Low health literacy was linked with increased mortality and hospitalizations. • Clinical assessment of health literacy could help plan interventions individualized for patients with low health literacy.
Examined the relationship between health literacy and hospitalization reutilization within 30 days of discharge. (Mitchell et al., 2012)	VI/ Primary	<ul style="list-style-type: none"> • Secondary analysis conducted to assess the connection between health literacy and the rate of subsequent 30-day hospital reutilization. • The sample included 1,540 patients from the control and intervention arms. 	<ul style="list-style-type: none"> • Low health literacy is a significant, independent, and modifiable risk factor for 30-day hospital readmission after discharge. • Interventions should be geared towards reducing early, unplanned hospitalization readmissions.

Focus of Articles Author/year	Level of Evidence/Source	Low Health Literacy/ Heart Failure/	Conclusions/ Practice Implications/Recommendations
Determined the link between health literacy and knowledge of heart failure with the readmission of heart failure patients. (Razazi et al., 2020)	VI/ Primary	<ul style="list-style-type: none"> • The patients in the study were likely to be over 18 years of age, with an ejection fraction of 35% or less. • A cross-sectional study with a convenience sample of 238 patients with the ability to read, write, and speak. 	<ul style="list-style-type: none"> • Findings indicate that most of the study populace had proper health literacy, and about half of them had enough information about heart failure. • There is a significant correlation between health literacy and knowledge.
Determined any differences among six hospitals in demographic, physiologic, and psychosocial variables of patients with heart failure readmitted within 30 days. (Centrella-Nigro et al., 2016)	VI/ Primary	<ul style="list-style-type: none"> • The retrospective view of patients admitted for heart failure of patients 18 years of age and older. • A convenience sample of 330 patients of multiple races was gathered to determining appropriate interventions to put in place. 	<ul style="list-style-type: none"> • Hospital leaders should analyze demographic, physiologic, and psychosocial characteristics of patients readmitted within 30-days of discharge for heart failure. • Knowledge of medications is imperative in adherence to medication management in which heart failure medications dominate.

Focus of Articles Author/year	Level of Evidence/Source	Low Health Literacy/ Heart Failure/	Conclusions/ Practice Implications/Recommendations
Explored the role of health literacy among heart failure patients. (Cajita et al., 2016)	V/Primary	<ul style="list-style-type: none"> • A systematic review of 23 studies to analyze the role of health literacy in heart failure populace. • 	<ul style="list-style-type: none"> • Nurses and healthcare professionals need to distinguish the consequences of low health literacy and adopt strategies that could minimize their unfavorable effects on the patient's health outcomes. • Nurses and other healthcare professionals should recognize that low health literacy is widespread.
Examined the relationship between literacy and hospitalization and death in a diverse cohort. (Wu et al., 2013)	II/ Primary	<ul style="list-style-type: none"> • A cohort of ambulatory patients with symptomatic heart failure in the United States. • The sample size comprised of 595 participants in a four-site randomized control trial. 	<ul style="list-style-type: none"> • Low literacy intensified the risk of hospitalization for ambulatory patients with heart failure. • There is a strong need to develop interventions that will mitigate literacy-related disparities.

Focus of Articles Author/year	Level of Evidence/Source	Low Health Literacy/ Heart Failure/	Conclusions/ Practice Implications/Recommendations
Investigated the connection between the Shortened Test of Functional Health Literacy in adults (S-TOFHLA) total score at the recommended 7-minute time limit and with no time limit. (Robinson et al., 2011)	I/ Secondary	<ul style="list-style-type: none"> • An ongoing randomized clinical trial was designed to test an education and counseling intervention to improve self-care in patients with heart failure. • Six-hundred and twelve rural-dwelling adults with heart failure were enrolled. 	<ul style="list-style-type: none"> • Based on values and preferences, patients make informed choices, and the ability to understand treatment information may impact treatment decision making. • Self-management in heart failure not only includes the need to read and comprehend written material but also encompasses the ability to communicate with health care providers effectively.
Determined the prevalence of inadequate health literacy and determine the reliability of the Dutch heart failure knowledge scale and Self-care of Heart Failure Index. (Dennison et al., 2011)	VI/Primary	<ul style="list-style-type: none"> • A descriptive, comparative study conducted in a large urban teaching hospital for adults 18 years of age and older to determine the differences in the level of health care literacy. • A convenience sample of 95 admitted to a large, urban hospital with heart failure. 	<ul style="list-style-type: none"> • Findings from this study concluded that health literacy has significant clinical implications. • Interventions need to be tailored to improve heart failure knowledge and self-care among individuals with heart failure.

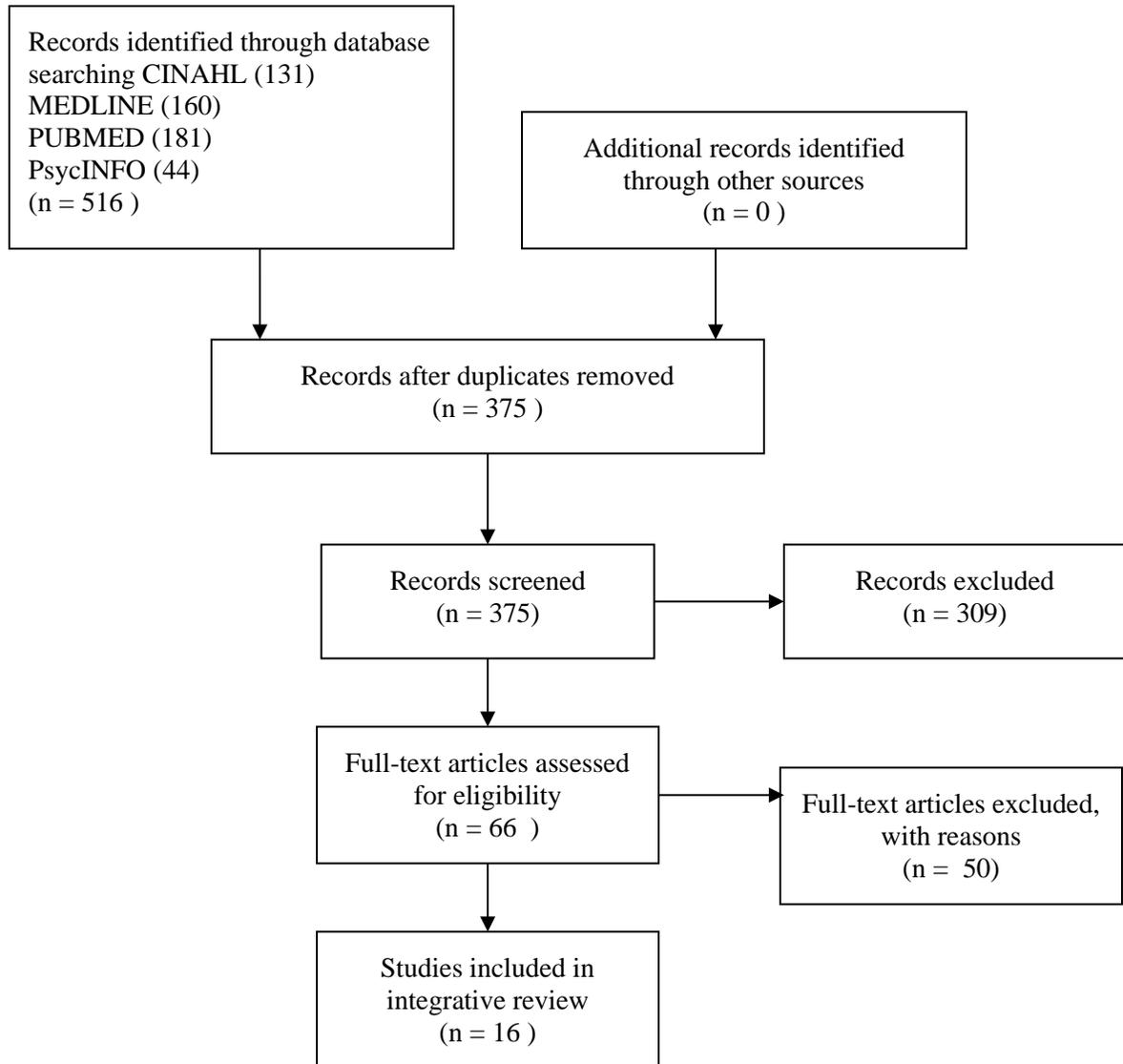
Focus of Articles Author/year	Level of Evidence/Source	Low Health Literacy/ Heart Failure/	Conclusions/ Practice Implications/Recommendations
Explained the correlation between health literacy, heart failure knowledge, self-efficacy, and self-care. (Chen et al., 2014)	VI/ Primary	<ul style="list-style-type: none"> • A convenience sample of 81 participants, 18 years of age and older, via a cross-sectional, correlational design and survey methods. 	<ul style="list-style-type: none"> • Health literacy impacts knowledge about heart failure but not self-care compliance. • Findings suggest self-efficiency influences self-care adherence.
Examined if health literacy is associated with heart failure knowledge, self-efficacy, and self-care adherence longitudinal. (Chen et al., 2013)	VI/ Primary	<ul style="list-style-type: none"> • A correlational, longitudinal design over three periods of time. • A sample size of 51 participants at baseline, two- and four-month intervals on assessing health literacy. 	<ul style="list-style-type: none"> • Health literacy is linked to heart failure in understanding longitudinally. • Findings indicated that health literacy was not linked to self-efficacy self-care adherence.

Focus of Articles Author/year	Level of Evidence/Source	<ul style="list-style-type: none"> • Low Health Literacy/ Heart Failure/ 	<ul style="list-style-type: none"> • Conclusions/ Practice Implications/Recommendations
Examined the effectiveness of using the teach-back method to understand health education, as well as the impact of this method on patient's disease self-management and health outcomes. (Yen & Leasure, 2019)	III/Primary	<ul style="list-style-type: none"> • A systematic review that included 26 articles. • The systematic review followed the PRISMA guidelines. 	<ul style="list-style-type: none"> • Results showed positive effects of teach-back about patient satisfaction, patient awareness and responses, post-discharge readmissions, disease self-management and knowledge, and quality of life.
Examined the effectiveness of using the teach-back method to understand health education, as well as the impact of this method on patient's disease self-management and health outcomes. (Yen & Leasure, 2019)	III/Primary	<ul style="list-style-type: none"> • A systematic review that included 26 articles. • The systematic review followed the PRISMA guidelines. 	<ul style="list-style-type: none"> • Results showed positive effects of teach-back about patient satisfaction, patient awareness and responses, post-discharge readmissions, disease self-management and knowledge, and quality of life.

Focus of Articles Author/year	Level of Evidence/Source	• Low Health Literacy/ Heart Failure/	• Conclusions/ Practice Implications/Recommendatio ns
Determined if the teach-back method can impact 30-day readmission rates in patients with heart failure. (Almkuist, 2017)	I/ Primary	<ul style="list-style-type: none"> • A systematic review of English articles between the years of 2011-2016. • Five studies were included in the study. 	<ul style="list-style-type: none"> • All studies reviewed showed positive patient outcomes with the teach-back method being identified as a useful tool.
Identified the effectiveness of discharge education using the teach-back method on 30-day readmission. (Oh, Lee, Yang, & Kim, 2019)	II/ Primary	<ul style="list-style-type: none"> • Five studies were included for critical appraisal. • The study included adults 18 and older, discharged in any health care setting. 	<ul style="list-style-type: none"> • The study confirmed that the teach-back method was effective in reducing unexpected 30-day readmission.
Determined if hospitalized heart failure patients educated with the teach-back method retain self-care educational information and whether it is associated with fewer hospital readmissions. (White, Garbez, Carroll, Brinker, & Howie-Esquivel, 2013)	IV/ Primary	<ul style="list-style-type: none"> • A prospective cohort design of patients aged 65 and older. • The sample size includes 276 patients over a 13-month time frame. 	<ul style="list-style-type: none"> • This study confirmed that the teach-back method is an effective method of providing heart failure education.

Appendix-A

PRISMA 2009 Flow Diagram



Appendix-B

CITI Training Certificate



Completion Date 26-Aug-2019
Expiration Date 25-Aug-2022
Record ID 32828390

This is to certify that:

Melissa Goodwin

Has completed the following CITI Program course:

Biomedical Research - Basic/Refresher (Curriculum Group)
Biomedical & Health Science Researchers (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Liberty University



Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w9dd0c8fd-6b4c-41d1-a6a4-6220201a8833-32828390

Appendix-C

Institutional Review Board

LIBERTY UNIVERSITY

INSTITUTIONAL REVIEW BOARD

May 20, 2020

Melissa Goodwin
Cynthia Goodrich

Re: IRB Application - IRB-FY19-20-389 Low Health Literacy Impact on Heart Failure Patients Readmissions: An Integrative Review

Dear Melissa Goodwin, Cynthia Goodrich:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study does not classify as human subject's research because:

(1) it will not involve the collection of identifiable, private information.

Please note that this decision only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office