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Heart To Heart: Educating Allied Healthcare Students and Professionals About Heart Failure

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HEART TO HEART: EDUCATING ALLIED HEALTHCARE STUDENTS AND PROFESSIONALS ABOUT HEART FAILURE

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EASTERN KENTUCKY UNIVERSITY
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DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY

This project, written by Samantha Barefoot under direction of Dr. Cindy Hayden, Faculty Mentor, and approved by members of the project committee, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF OCCUPATIONAL THERAPY

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Certification

We hereby certify that this Capstone project, submitted by Samantha M. Barefoot, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the project requirement for the Doctor of Occupational Therapy degree.

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Executive Summary

Background: Providing necessary education to healthcare professionals who serve individuals with heart failure (HF), which is becoming a prevalent health problem, allows for continuity of care and the promotion of disease management for this population. There is a gap in the literature regarding the benefits of interprofessional and intraprofessional education on HF disease management training for healthcare practitioners.

Purpose: The intent of this research was to determine if providing an educational in-service to allied health care students and practitioners increased their knowledge of occupational therapy's (OT's) role with HF clients and about HF itself as a condition interfering with occupation.

Theoretical Framework: Theoretical frameworks utilized for this study included The Model of Human Occupation (MOHO), in conjunction with the Health Belief Model (HBM), to address providing appropriate education to healthcare professionals providing care to individuals with HF.

Methods: The design of this quantitative study involved collecting pre/post survey data to evaluate the knowledge of the participants about the HF population and gathering participant satisfaction data regarding the in-service. A three-hour in-service was developed covering areas of best practice management for clients with HF, OT's role is working with clients on disease self-management of HF, and the nonmedical needs of clients with HF, such as social support. Specific topics presented during the in-service included stress management/coping strategies, energy conservation/work simplification, diet, symptom recognition and management, lifestyle changes, ADL/IADL participation, medication regimen, caregiver education, physical activity, importance of social support, and patient monitoring. The researcher conducted three in-services to a local health system and an OTD program at a private university in the Southeastern U.S. in 2019.

Results: A total of 22 healthcare practitioners and 32 allied health care students participated in the study. Data collected and analyzed based on participants' scores from the 20 question pre/post-surveys were compared as a group. Participants pre-survey mean score was 55% compared to post-survey mean score of 77%. When comparing students and practitioners, students pre/post mean scores were 54.5%/70.6% and 56.8%/87.9% for practitioners. Practitioners demonstrated greater improvement in scores compared to students by 17.3%. Paired t-tests of the pre/post-surveys determined that knowledge gained by students and practitioners from participating in the educational in-service was statistically significant ($p<0.05$).

Conclusions: Study objectives were met and participants demonstrated increased knowledge about the importance of OT's role in disease self-management with heart failure patients and best practice management of HF. The results of the study support providing structured inter/intraprofessional education for increasing understanding of OT's role with and providing integrated care for complex clients.

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CERTIFICATION OF AUTHORSHIP

Submitted to (Faculty Mentor's Name): Dr. Cindy Hayden

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Title of Submission: Heart to Heart: Educating Allied Healthcare Students and Professionals about Heart Failure

Certification of Authorship: I hereby certify that I am the author of this document and that any assistance I received in its preparation is fully acknowledged and disclosed in the document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in the document. Sources are properly credited according to accepted standards for professional publications. I also certify that this paper was prepared by me for this purpose.

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Date of Submission: 5/4/19

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Section One: Nature of the Project and Problem Identification

Introduction

Individuals with heart failure (HF) are complex human beings who are in dire need of guidance from their healthcare team to ensure the promotion of functional independence through meaningful occupations. Gillen (2013) stated, in his Eleanor Clarke Slagle Lecture, that our patients live complicated lives and this reflects the difficulties they face with occupations. He continued to explain "engagement in occupation requires the ability to use multiple cognitive processes, motor skills, and language skills simultaneously" (Gillen, 2013, p.647). This is exceptionally important when considering those individuals living with HF. One of the main goals of HF care is to evaluate the influence the disease has on patients' lives and their ability to cope with and manage the disease (Gustavsson & Branholm, 2003). It is also the role of occupational therapy (OT) to enable patients to return to their previous life roles and encourage their ability to cope with and manage such a chronic disease (Gustavsson & Branholm, 2003). Providing necessary education to current healthcare professionals, as well as future healthcare professionals, who may encounter individuals with HF, allows for continuity of care and the promotion of disease management for this population.

Abbreviated Literature Review

Heart Failure

Heart failure can be defined as a functional and/or structural impairment of ventricular filling or ejection of blood occurs (American Heart Association, 2017). The diagnosis of HF has increased in prevalence within the United States over the recent years. It is important to understand that disease management of HF for health care professionals and clients is complex and multifaceted. Additional interprofessional knowledge regarding proper disease management,

as well as appropriate education for individuals living with HF and those who provide care to these individuals, has the potential to decrease healthcare costs while improving quality of life for increased participation in meaningful occupations. HF, which may also be diagnosed as congestive heart failure (CHF), is currently one of the largest health and social problems significantly impacting many individuals (Zamanzadeh, Howard, & Jamshidi, 2013). It is estimated that hospital admissions for HF are the most common diagnosis-related group in the United States (Aguanno & Samson, 2018). More specifically, 18% of all HF hospitalizations are readmissions most of which are within the first 30 days of discharge (Shah, Forsythe, & Murray, 2018). This is due in large part to poor management of their HF disease process and poor prognosis, both which lead to a mortality rate of 50 percent over three years (Aguanno & Samson, 2018).

The diverse etiology of HF makes it a difficult diagnosis to detect in the earlier stages, as many of the symptoms associated with HF (dyspnea, limited exercise tolerance, fluid retention, and fatigue) have the ability to overlap with other disease such as obesity, the elderly, and lung disease (Aguanno & Samson, 2018). As healthcare systems transition from service-based to value-based, ensuring that early detection and effective disease management techniques are in place will become more prevalent (Aguanno & Samson, 2018). This is of tremendous importance in limiting the cost of this disease and allowing HF patients to demonstrate knowledge of steps to manage their HF. OT can facilitate and provide education on adaptations and compensatory strategies for continued independence and in promoting the clients' ability to manage the disease as it progresses (Norberg, Boman, Lofgren, and Brannstorm, 2014).

Interprofessional Education

Not only is it important to have OT guiding individuals with HF to be successful in completing occupations, but a collaboration between various disciplines is needed to allow for success in disease management overall. Interprofessional education (IPE) between healthcare professionals becomes an integral and necessary part of patient satisfaction and success (Ripat, Wener, Dobinson, and Yamamoto, 2014). Educating and collaborating with students is equally as important. Students are the future of our healthcare profession and it is important to provide them with a well-rounded education to better prepare them for the role of being a practitioner. The provision of client-centered education, through IPE, is a collaborative way to improve patient care (Ripat, Wener, Dobinson, and Yamamoto, 2014). IPE also has the potential to improve the overall quality of healthcare, as a whole (Maree, Bresser, Yazbek, Engelbrecht, Mostert, Viviers, & Kekana, 2017).

In addition to advocating for multidisciplinary teamwork, the goal of IPE in the community is to achieve a common goal based on the needs of the patient (Maree et al, 2017). IPE demonstrates the ability to promote practitioners who are competent, collaborative, and have the ability to work as a member of a team (Maree et al, 2017). This is an important component in redesigning healthcare for improved health outcomes through interprofessional collaboration (IPC) (Bultas, Ruebling, Breitbach, & Carlson, 2016).

Finally, through increased education via IPE, individuals with HF will have increased social and emotional support throughout the healthcare process. Individuals with HF will also need social and emotional support from their peers and their personal support system to be successful in disease management. Providing social support and patient education for individuals with heart failure is essential for promoting and enhancing self-care and lifestyle

modifications. It is also important for improving quality of life for greater success at independence when dealing with this chronic disease (Jaarsma et al, 1999). Additional research has identified individuals with HF, who had a stable support system, were more likely to be accepting of their HF and resume normal activities sooner, as compared to those without support (Fry et al, 2016). Moreover, participants expressed uncertainty about the responsibilities of their healthcare team, whose responsibility it was for maintaining various aspects of their care and deemed it difficult to differentiate the variances within the healthcare systems (Fry et al, 2016). These considerations justify how this capstone project can positively impact the occupations of individuals with HF through IPE about HF and OT's role in the healthcare process of those with HF.

Education Regarding Heart Failure

The research project will provide IPE for current and future healthcare practitioners in treating individuals with HF through education and promoting the role of OT in working with this population. This project is designed to improve the knowledge of healthcare practitioners and subsequently to individuals with HF about the disease process. Educating individuals with HF about their chronic condition improves access to preventive and disability services, the ability to treat illness and disease, increase their quality of life, reduce premature death, and increase life expectancy (Healthy People, 2017). Research indicates increasing social support and participation in occupation is beneficial for individuals living with HF. Based on existing research, OT can play a role in the facilitation of this support. OT provides intervention on management strategies, as well as occupational engagement to ensure individuals maintain function, despite their poor health status associated with HF (Toole, Connolly, & Smith, 2012). An educational component that is completed through an interprofessional in-service can ensure

current and future healthcare practitioners demonstrate knowledge and understanding of disease management of HF patients. A goal for health care practitioners in HF care is to evaluate the influence the disease has on the patients' lives and their ability to cope with the disease. It is in the realm of OT practice to enable patients to return to their previous life roles and encourage their ability to manage and cope with such a chronic disease (Gustavsson & Branholm, 2003).

With OT having the skillset for explaining the role of OT with HF clients, it is appropriate for the IPE session to be founded in an OT model/frame of reference. The education in-service provided to current and future healthcare practitioners will utilize the Model of Human Occupation (MOHO) in its service delivery. MOHO "seeks to explain how occupation is motivated, patterned, and performed" (Model of Human Occupation, 2013). This is determined based on four components: volition, habituation, performance capacity, and environmental contexts (Model of Human Occupation, 2013). MOHO provided the framework in understanding how volition, habituation, and performance capacity can impact an individual's ability to perform occupations (Larsson-Lund & Nyman, 2017).

Problem Statement

There is an apparent gap in the literature regarding the benefits of IPE on HF disease management training for health practitioners by OT. The researcher completed an extensive search of the literature utilizing various search engines which includes but is not limited to; EBSCO host (academic search complete, medline, CINAHL, and Cochrane), google scholar, and library express. Search words included but were not limited to; "occupational therapy and HF", "occupational therapy and IPE", "occupational therapy and client education", "IPE and HF", "occupational therapy and disease management", "IPE and disease management", "HF education", and "HF education and occupational therapy".

There were no articles found which specifically addressed OT's educating healthcare professionals regarding OT's role in educating HF clients in disease management and social support. Therefore, providing education to those who service individuals with HF is an essential method for promoting and enhancing self-care and lifestyle modifications. In addition, patient education for individuals with HF improves quality of life. Thus, promoting greater success at independence when dealing with this chronic disease (Jaarsma et al (1999).

The issue addressed in this capstone project was providing education to current and future healthcare practitioners who will potentially encounter the HF patient population to address the lack of client education and social support seen in individuals with HF. Through providing education and skills to healthcare practitioners, it will reciprocally address the lack of education and skills individuals with HF exhibit in their ability to manage their disease process. This ability then impedes independence in both meaningful occupations, as well as quality of life for individuals with HF. Finally, management of individuals with HF not only needs to be completed by those healthcare practitioners that work in healthcare systems, but also by those who work in the community to ensure continuity of care (Glogowska et al, 2008). This will ensure limited interruption of daily roles due to the lack of education.

Purpose Statement

The purpose of this study is to provide education for current and future healthcare practitioners of OT's role for individuals with HF and the importance of increasing support and education for this population. The intent of this capstone project was to determine if providing an education in-service will increase knowledge of OT's role with HF clients and about HF itself as a condition interfering with occupation.

Project Objectives

1) Does participation in an educational in-service increased the knowledge of allied health care practitioners and students about the importance of OTs role in disease self-management with HF patients?
2) Do participants demonstrate an increased knowledge in best practice management of heart failure as evidenced through responses from pre/post-presentation surveys?
3) Do participants demonstrate improved confidence in ability to focus on non-medical needs of those with heart failure such as personal and social support, transportation, patient engagement, and access to outside resources?

Theoretical Framework

MOHO, in conjunction with the Health Belief Model (HBM), will be the guiding theory/frame of reference for the development of the educational in-service for the identified participants. The theoretical framework can increase or decrease one's functional independence when providing intervention to individuals with HF. MOHO provides the framework in understanding how volition, habituation, and performance capacity can impact an individual's ability to perform occupations (Larsson-Lund & Nyman, 2017). Moreover, "all human occupation arises out of an innate, spontaneous tendency of the human system-the urge to explore and master the environment" (Kielhofner & Burke, 1980, p. 573). The structure and content are organized into two steps: (1) developing a conceptual framework from open systems, and (2) specifying conceptual content to describe the structure and function of the system (Kielhofner & Burke, 1980, p. 581). MOHO is correlated into two parts/subsystems that drives occupational performance based on volition, habituation, and performance capacity of the individuals that related upon in the model. The volitional subsystem reinforces personal

causation, valued goals, and interests. The habitual subsystem identifies internalized roles and habits and the performance capability subsystem looks at skills needed to perform occupations (Kielhofner & Burke, 1980). For purpose of this project, it will be the practitioners who encounter individuals with HF to consider the driving forces in the environment to promote participation and eliminate oppression based on MOHO.

The HBM adds an additional level of structure when providing education to current and future health care professionals. This, in turn, will improve students' and practitioners' ability to provide education and support to individuals with HF. Moreover, this model was one of the original health behavioral change models that was developed in the 1950's (U.S. Department of Health and Human Services, 2005). Health motivation and client beliefs are the focus of this change theory while incorporating how problem behaviors will influence health concerns specific to prevent, screen for, and control illness (U.S. Department of Health and Human Services, 2005). The HBM expresses six concepts in designing health behavior changes for clients. These concepts include:

1. Perceived susceptibility (beliefs of getting a condition),
2. Perceived severity (beliefs of the seriousness of the condition),
3. Perceived benefits (beliefs of effectiveness of taking action against the condition),
4. Perceived barriers (beliefs about the cost (material and psychological) associated with the condition),
5. Cues to action ("readiness for change"), and
6. Self-efficacy (confidence in one's ability to take action against the condition) (U.S. Department of Health and Human Services, 2005).

HBM in conjunction providing appropriate health education and the use of MOHO is used in the development of this Capstone Project.

Significance of the Project

The completion of IPE in-services will allow current and future healthcare practitioners to recognize the need to provide encouragement and education to individuals with HF. It may also help those affected with HF indirectly to increase management of their disease and decrease any potential negative impact(s) on the healthcare system. The project, as mentioned above, will be grounded in OT theory and shall provide educational information about the disease, the process of HF, and the importance of participation in occupation. The in-services for allied health students and practitioners will be focused on facilitating and reinforcing the promotion of health and well-being, from a public health standpoint.

This project is directly related to the HP 2030 objectives to eliminate health disparities and promote leadership across multiple sectors for improvement in health and well-being of all (Healthy People. 2018). Furthermore, this capstone demonstrates a relation to the American Occupational Therapy Association's (AOTA) Centennial Vision and their 2025 Vision. AOTA's 2025 vision states that "occupational therapy maximizes health, well-being, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday living" (American Occupational Therapy Association, 2017). This project may indirectly allow for increased health, well-being, and quality of life for individuals with HF. Through the educational in-services being provided in this capstone project participants will be able to offer effective solutions for HF patients which will facilitate participation in everyday living.

This is extremely important because OT can facilitate collaboration and motivate action on HF at the national, state, and community levels. By doing so, OT can help improve the U.S. HF population by facilitating access to better health services. Specifically completing this capstone project will educate healthcare professionals to recognize the need for continuity of care within healthcare systems for this population. Also, completion of the capstone will provide the researcher with the tools to education and advocate about HF, thereby equipping the research with the skills needed to address health disparities in this population.

There is evidence OT can facilitate collaboration and motive action, regarding those individuals who are underserved, to improve the health of the U.S. population and assist organizations in the effective distribution of resources (Braveman and Suarez-Balcazar, 2009). Additionally, based on the health disparities patients are encountering, the research will provide an opportunity to advocate for the needs of individuals with HF. Moreover, OT taking a more active role to "promote the importance of occupations on health and provide leadership on improving public health" is beneficial to the profession (Bass-Haugen, 2009, p.33).

Facilitating collaboration and motivating action from a national, state, and community level improve community-centered healthcare for HF clients. To follow a community-centered method, OT "needs to approach the community holistically, exploring all aspects of the community and its members" (Doll, 2010, p. 148). OT practitioners can assume many roles through academic partnerships and collaborations with the community (Doll 2010). Providing an educational in-service to increase knowledge of OT's role with individuals with HF can better serve this population. Through the project, individuals may indirectly gain access to health services and health education they had previously been unable to receive. Community resources may not be available to those individuals with HF limiting access to health services. This further

hinders and alienates HF individuals from being able to effectively manage and slow their disease process, resulting in rising healthcare costs for the U.S. population.

Moreover, this project may generate changes to the physical and social conditions that individuals with HF are currently facing based on the lack of support and education being provided to them. AOTA's Centennial Vision and Executive Summary is working towards the goal of ensuring OT practitioners are consciously promoting "occupational therapy's practice of enabling people to improve their physical and mental health, secure well-being, and enjoy a higher quality of life through preventing and overcoming obstacles to participation in the activities they value" (American Occupational Therapy Association, 2007). Based on this, the project will address many of those needs mentioned in AOTA's Centennial Vision and Executive Summary. This will be evident through health promotion education, providing resources, and through education provided to the practitioners which can later give individuals with HF the skills to have an active voice in overcoming the obstacles limiting their participation in occupations.

Summary

In summary, development and implementation of this project to promote IPE for students and healthcare practitioners on individuals with HF will not only benefit health services but can also promote the role of OT within this population. OT can effectively address the lack of education and support for those with HF. With increased disease management comes the ability for these individuals to have increased quality of life, health, and well-being.

Section Two: Detailed Review of the Literature

The diagnosis of HF has shown an increase in prevalence within the United States over the recent years. It is important to understand disease management of HF is complex and multifaceted. Learning more about how disease management and appropriate education for individuals living with HF, and those who provide care to these individuals, has the potential to decreased healthcare costs and improve quality of life for increased participation in meaningful occupations. This literature review will discuss HF as a disease, the role of OT and health care, disease management and OT, OT and HF, support related to HF, MOHO and HBM as frames of reference, and the effectiveness of IPE.

Body of Literature Review

Heart Failure

HF, which may also be diagnosed as congestive heart failure (CHF), is one of the largest health and social problems significantly impacting many individuals (Zamanzadeh, Howard, & Jamshidi, 2013). Nearly 6,000,000 people are living with HF to date and there are more than 550,000 new cases diagnosed each year (Zamanzadeh, Howard, & Jamshidi, 2013). There are online HF disease management programs through the American Heart Association which aid and assist individuals in maintaining a healthy lifestyle, despite the poor prognosis of this disease. These HF disease management programs are implemented to help reduce mortality, hospital readmissions, improve quality of life, and increase cost savings (Jaarsma et al., 2008). Additionally, it is also evident the nature and severity of HF is correlative to the individuals' knowledge, participation, and cooperation in their health management (Zamanzadeh, Valizadeh, Howard, & Jamshidi, 2013).

The most common diagnosis-related group for hospital admissions is HF in the United States (Aguanno & Samson, 2018). More specifically, 18% of all HF hospitalizations are readmissions especially within the first 30 days of discharge (Shah, Forsythe, & Murray, 2018). This is due in large part to poor management of their disease process and the poor prognosis, leading to a mortality rate of 50 percent over three years (Aguanno & Samson, 2018). Due to the prevalence of this chronic disease, the yearly costs for healthcare services and medication for this population is said to be an estimated $32 billion and expenditure is almost $3 trillion, based just on hospital admissions and readmissions alone (Shah, Forsythe, & Murray, 2018). Additionally, those numbers are projected to triple by 2030 (Aguanno & Samson, 2018).

With the etiology of HF being diverse, it makes it a difficult diagnosis to detect in the earlier stages as many of the symptoms associated with HF (dyspnea, limited exercise tolerance, fluid retention, and fatigue) have the ability to overlap with other disease such as obesity, the elderly, and lung disease (Aguanno & Samson, 2018). As healthcare systems transition from service-based to value-based, ensuring early detection and effective disease management techniques are in place will become ever more prevalent (Aguanno & Samson, 2018). This is of immense importance in limiting the cost of this disease and allowing HF patients to demonstrate knowledge of managing their HF.

The management of HF is complex and is noted to involve several steps. Outpatient treatment for HF can include all of the following: initial laboratory evaluations, documented measurement of the left ventricle function, body weight, blood pressure, clinical symptoms of volume overload, evaluation of activity level, educating patients on disease management and health-related changes, and ensuring that patients are treated with evidence-based therapy (Mosalpuria, Agarwal, Yaemsiri, Pierre-Louis, Saba, Alvarez, & Russell, 2014). All of these

clinical steps allow for better disease management and prolonged quality of life for individuals diagnosed and living with HF. An estimated $17 billion of healthcare costs for this population may be preventable and there is a great need to address poor coordination of services, medical nonadherence, and inadequate access to services (Shah, Forsythe, & Murray, 2018).

Role of Occupational Therapy and Health Care

With changes taking place in the healthcare system it provides the opportunity for OT to demonstrate their unique value to blend practice and medicine in meeting the needs of our society (Lamb, 2016). Within health care, it is OT's role to provide patient, provider, and caregiver education, promote physical function, promote ADL/IADL participation, encourage positive disease management, and assist in reduction of unnecessary healthcare costs (Moyers & Metzler, 2014). Moreover, OT's role is to ease human suffering and improve participation in the activities that make life worth living (Clark, 2012). Additionally, OT demonstrates the ability to provide innovation in relation to health care to create value and implement new ideas for positive influence on the individuals we serve (Lamb, 2018).

The federal government has initiated programs to improve health care to decrease costs, which is commonly known as the Triple Aim perspective (Robinson, Fisher, & Broussard, 2016). The triple aim initiative is to decrease of health care costs, while the quality of care improves and is more cost-effective while meeting the needs of all Americans (Robinson, Fisher, & Broussard, 2016). OT can assist in fulling the Triple Aim initiative of health care through use of OT's principles, education, practice, approach, and perspective offering benefits for coordination of patient health care (Robinson, Fisher, & Broussard, 2016).

Furthermore, OT can promote improvement in health and lifestyle through consideration of the context and situations of individuals' everyday lives (Robinson, Fisher, & Broussard,

2016). Additionally, no other health profession comprehensively addresses concerns such as daily living activities, issues of independence, lifestyle choices, social activities, time management, public transportation, and community reintegration. OT also includes assessment and treatment intervention in driving, social participation, work, and education for clients with chronic disease (Robinson, Fisher, Broussard, 2016).

Disease Management and Occupational Therapy

In 2015, the Centers of Disease Control and Prevention reported that 86% of all health care costs went into serving individuals with chronic diseases (Lamb, 2016). OT is able to educate individuals with chronic diseases to provide value in disease management to promote positive habits and rituals to decrease health risks (Lamb, 2016). OT has an essential role in the ability to nurture disease management in individuals with chronic conditions (Leland, Fogelberg, Halle, & Mroz, 2017). It is critical, as the shift in health care moves to self-management of disease, for OT to provide value of OT's knowledge, skills, and precepts cane be used to improve health for individuals with chronic conditions cost effectively (Leland et al, 2017). Moreover, findings from the literature with current policy have promoted preventive measures for delivering optimal care to individuals with chronic conditions through focusing on self-management (Leland et al., 2017).

In relation to disease management, OT can enable improvements in adherence to medication management to promote current health care reform. OT demonstrate the skills to address common causes of medication non-adherence that impedes disease management for individuals (Schwartz & Smith, 2017). In addition to adherence to medication management, OT can promote fatigue management for individuals with chronic diseases to improve self-efficacy,

quality of life, and energy conservation behaviors for this population (Van Heest, Mogush, & Mathiowetz, 2017).

People with chronic conditions have difficulty with their health promotion, maintenance, and management interventions (Berger, Escher, Mengle, & Sullivan, 2018). However, OT practitioners are important members of the healthcare team to promote self-management for individuals with chronic conditions to improve clinical outcomes (Berger et al, 2018). Self-management is one instrument to promote health in the context of chronic disease. Self-management extends from individuals' engagement in medical behaviors to coping with participation restrictions, and the emotional aspects of living with disease (Stern, 2018).

Despite the emphasis on the importance of disease management, the clinical outcomes remain poor for individuals with chronic conditions due to the lack of communication between healthcare providers. Healthcare systems are not well structured to provide disease management education effectively (Leland et al., 2017). OT practitioners can act as members of the care team in the disease management process. This would enhance outcomes from an occupational performance perspective as compared to the typical medical approach (Leland et al, 2017). Furthermore, early identification and occupational engagement for individuals with chronic conditions can have a positive impact on the healthcare system (Roberts & Robinson, 2014). Patients with conditions that place them at high risk for readmissions are in need of demonstrating the ability for early identification of symptoms while combining education on disease management/risk-reduction (Roberts & Robinson, 2014).

OT has the ability to provide services across the continuum of care to enable people to live life to the fullest through promotion of disease management while minimizing illness, injury, and disability (Roberts & Robinson, 2014). Teaching self-management is a key element in

promoting successful disease management to enable positive outcomes for patients to manage their daily activities (Roberts & Robinson, 2014). Finally, OT principles are suitable with self-management support that incorporates both self and support. Self and support empower individuals to embrace personal definitions of health to promote the profession being grounded in client-centered practice and recognizes the knowledge of individuals in living their lives (Stern, 2018).

Occupational Therapy and Heart Failure

A goal for HF care is to evaluate the influence the disease has on the patients' lives and their ability to cope with the disease (Gustavsson & Branholm, 2003). It is the role of OT to enable patients to return to their previous life roles and encourage their ability to manage and cope with such a chronic disease (Gustavsson & Branholm, 2003). OT can provide education on adaptations and compensatory strategies for continued independence and facilitate the clients' ability to adapt to the disease as it progresses (Norberg, Boman, Lofgren, & Brannstorm, 2014).

Additionally, individuals with HF have psychological and other influences that contribute to their occupational performance. These include but are not limited to; redefining an active life, awareness of one's impaired body, realizing one's limited activity ability, striving to preserve an active life, focusing on meaningful activities, and changing vs. not changing habits and roles. More specifically the ability of individuals with HF to plan activities and balance the degree of effort, limiting, organizing, and rationalizing activities, adjusting activities to today's abilities, and using technology and adapting the environment can improve occupational performance (Norberg et al., 2013).

Individuals with HF are noted to be more dependent with activities of daily living (ADLs) and instrumental activities of daily living (IADLs) based on their ability for self-

management of their disease process (Norberg, Boman, & Lofgren, 2008). OT is well versed to provide education on the importance of ADL/IADL participation and incorporation of energy conservation techniques. Furthermore, OT can provide appropriate adaptation of tasks, use of assistive technology, and occupational modifications, for success in their ability to manage their disease effectively to limit dependency (Norberg, Boman, & Lofgren, 2008).

Support and Heart Failure

When serving the community, OT "needs to approach the community holistically, exploring all aspects of the community and its members" (Doll, 2010, p. 148). Moreover, "OT practitioners can play many roles in community partnerships through academic-community partnerships, community coalition membership, advisory board membership, nonprofit board membership, or simply as a member of the community" (Doll, 2010, p. 172). Community intervention allows OT practitioners the opportunities to meet the societal changes to healthcare of health literacy and self-management of their illness (Piskur, 2013). Through community intervention strategies, OT practitioners allow the clients to demonstrate self-management of making their own decisions and management of their situation through technology, modifications, adaptations, and easy access to support group (Piskur, 2013). This research project can promote the importance of partnerships within our community.

In addition to community support, increased social participation is considered beneficial to the health and well-being of a person. With current societal and health changes, there is a need for individuals to demonstrate self-management, which is completed through increased social participation defined as "a person's involvement in life situations" (Piskur, 2013, p.3). Based on this, societal changes encourage OT to enable increased social support and participation for individuals dealing with illness and/or disease (Piskur, 2013). To increase social

participation through the community setting allows the opportunity for clients to demonstrate effective self-management of their disease (Piskur, 2013).

Research indicates increasing social support and participation in occupation is beneficial for individuals living with HF. Based on existing research, not only does OT play a role in the facilitation of social support, but OT can provide intervention on management strategies (Toole, Connolly, & Smith, 2012). Occupational engagement ensures individuals maintain function, despite poor health status associated with HF (Toole, Connolly, & Smith, 2012). Decreased occupational engagement is a social problem affecting individuals who are diagnosed with this chronic disease (Perez-Garcia, Olivian, & Bover, 2012). The presence of low social support is associated with increased mortality and morbidity among HF patients (Perez-Garcia, Olivian, & Bover, 2013). Furthermore**,** HF patients with "adequate support for dealing with their illness may help alleviate their depression and may facilitate a more proactive stance with regard to healthy lifestyles and adherence to clinical recommendations" (Perez-Garcia, Olivian, & Bover, 2013, p. 102).

Providing support and patient education for individuals with HF are essential methods for promoting and enhancing self-care and lifestyle modifications. Education and support can improve quality of life with greater success at independence when dealing with this chronic disease (Jaarsma et al., 1999). Research has identified individuals with HF who had a stable support system were more likely to be accepting of their HF and resume normal activities sooner, as compared to those without support. In the study, participants expressed uncertainty about the responsibilities of their healthcare team for maintaining various aspects of their care and deemed it difficult to differentiate the variances within the healthcare systems (Fry et al, 2016). Such considerations are why this capstone project can positively impact the infrastructure and allow

success with this population. Finally, an OT led self-management program for HF clients is effective in active participation and leads to improvement in their health-related quality of life. Outcomes are improved for individuals with multi-morbidity by increasing self-management of their disease process and improved participation in ADLs/IADLs based on increased social participation (Garvey et al., 2015).

The Model of Human Occupation

The education in-service provided to the identified participants utilized MOHO in its service delivery. MOHO "seeks to explain how occupation is motivated, patterned, and performed" (Model of Human Occupation, 2013). This is determined based on four components: volition, habituation, performance capacity, and environmental contexts (Model of Human Occupation, 2013). These components were addressed in the foundation of the in-service itself. Program outcomes and sustainability were also addressed within this program model.

Occupation is an essential concept as both a means and as an end in OT practice (Larsson-Lund & Nyman, 2017). The International Classification of Functioning, Disability and Health (ICF) defines participation as being involved, included, or engaged in or having access to needed resources (Larrson-Lund & Nyman, 2017). Moreover, the importance of utilizing a frame of reference/model in OT practice to promote validity within the profession is important to promote the established policies and procedures. Additionally, MOHO and its effectiveness towards occupational participation and engagement in occupation were highly significant to this capstone. Both concepts are important for health policy and to ensure practitioners are not limiting access to healthcare in client populations (Larsson-Lund & Nyman, 2017).

The Health Belief Model

The second model, the HBM, provides an opportunity to explore how health care providers and their behaviors influence patient perceptions in relation to treatment and patient involvement (Bishop, Baker, Boyle, & MacKinnon, 2014). When examining self-efficacy, in the HBM, if an individual does not have confidence to pursue action or prevent harm then he/she are unlikely to make behavior changes (Bishop et al., 2014). Moreover, the HBM offers self-efficacy to be used for a wide variety of patient populations (Jones, Smith, & Llewellyn, 2012). HBM demonstrated the ability to improve health care adherence and achieved statistically significant improvements in adherence through studies using health-professional-led interventions (Jones, Smith, & Llewellyn, 2012). HBM has provided health-promotion intervention as well as, prevention of disease (Jones, Smith, & Llewellyn, 2012). Finally, HBM has been effective in explaining the factors that affect individuals' health behaviors, how they act to keep their illness under control, and what motivates or prevents the patient's treatment (Cal & Bahar, 2018).

Interprofessional Education

Multidisciplinary team management of individuals with HF can bridge the gap between primary and tertiary care, which could ultimately minimize the worries of affected patients and provide the social support needed (Gu, Ma, Zhou, & Xia, 2016). The World Health Organization (WHO) recognizes the importance of IPE as a basic and necessary tenant for successful care of patients (Olenick, Allen, & Smego, 2010). Additionally, IPE promotes quality care and relies heavily on interprofessional communication and team approach for person-centered care. The goal of IPE is to “develop competencies of role clarity, communication, team functioning, and person-centered care to serve as a foundation for a collaborative workforce” (Salfi, 2017, p. 297).

This instructional strategy can be used not only in academic setting, but in clinical settings as well. IPE allows for increased communication skills and cultivates clinical reasoning skills to promote a team-based approach to care. IPE also promotes knowledge of roles and responsibilities to clearly articulate professional skills related to establishing common goals based on ethical person-centered care (Salfi, 2017). IPE is important for access to health care and resources for meaningful and purposeful occupational performance. Access to healthcare and purposeful occupational performance is important to incorporate into IPE in relation to clients that are provided services to achieve positive outcomes from illness (DiZazzo-Miller, 2015). Additionally, education and training for both the patient and the available family caregivers is necessary to ensure successful therapeutic outcomes, which can be initiated and performed through a multidisciplinary team approach (DiZazzo-Miller, 2015).

Related to IPE, utilization of a multidisciplinary team for disease management, that emphasizes self-management and patient education is associated with enhancing a person's ability to manage their HF successfully (Norberg, Boman, & Lofgren, 2008). An interprofessional team approach for individuals with HF, which emphasized education over a 6-month period, decreased number of hospital readmissions for individuals with HF based on a pre- and post-test analysis (Shah, Forsythe, & Murray, 2018). Moreover, there was a correlation of interprofessional care to reduction of readmissions, improved patient-provider satisfaction/relationship, and decreased cost for individuals with HF (Shah, Forsythe, & Murray, 2018). IPE among healthcare professionals is an integral part of patient satisfaction and success. Educating and collaborating with students is equally as important. Students will be the future of our healthcare profession and it is important to provide them with a well-rounded education to better prepare them for the role of being a practitioner. Providing client-centered education

through IPE for healthcare students and practitioners is a collaborative way to improving patient care (Ripat, Wener, Dobinson, & Yamamoto, 2014). Moreover, IPE has the potential to improve quality of healthcare (Maree, Bresser, Yazbek, Engelbrecht, Mostert, Viviers, & Kekana, 2017).

In addition to advocating for multidisciplinary teamwork, the goal of IPE in the community is to achieve a common goal based on the needs of the patient (Maree et al, 2017). IPE demonstrates the ability to promote practitioners who are competent, collaborative, and ability to work as a member of a team (Maree et al., 2017). An important component in redesigning healthcare for improved health outcomes is through interprofessional collaboration (IPC) (Bultas, Ruebling, Breitbach, & Carlson, 2016). IPE allows students' the opportunity to look at a task from the perspective of their own profession, as well as other professions to improve client outcomes (Hallin, Kiessling, Waldner, & Henriksson, 2009). Finally, IPE is an effective means to increase clinical collaboration and competence (Hallin, Kiessling, Waldner, & Henriksson, 2009).

In relation to IPE and multidisciplinary care, major goals of clinical competence revolve around education, improved function, facilitating a prompt and safe environment, and improved patient-centered management (Bean & Edmonds, 2017). Client education is a major component of everyday health care practice and theories of adult education should be the foundation of client education (DeCleene & Ridway, 2013). Additionally, it is important to consider, adults are self-directed learners in many aspects of their lives and their learning must focus on developing competency as compared to simply absorbing the content that is provided to them (Shea, 2015). Changes in healthcare and a growing focus on wellness programs and community-based practice are challenging OT to utilize educational strategies for larger groups outside of traditional practice areas (DeCleene & Ridgway, 2013). Moreover, as OT moves beyond its first 100 years,

it can reasonably be expected that interprofessional practice and education will become a mainstream method for solving the complex health care needs of individuals and targeted populations (Atchison & Suarez, 2017)

Conclusion

In conclusion, research has indicated that HF is growing in prevalence and becoming an epidemic in the United States. Research has also indicated the need to an increase education to better provide care to these individuals via promotion of disease management. Themes noted in the research provide an understanding of the importance of IPE for continuity of care, as well as, evidence to show education and support has a positive influence on individuals with HF. With limited research being completed on the effectiveness of disease management and individuals with HF through an OT lens, it is in OT's best interest to establish a role within this practice area. OT's scope of treatment is vast and holistic in nature. Therefore, it is essential for OT to utilize this understanding in helping the HF patient population through promotion of education to the identified participants.

Additionally, research indicates a need for this capstone project. Research has shown there is a growing need for the incorporation of IPE to healthcare practitioners to ensure permanence of care. This interprofessional educational in-service provided to healthcare students and practitioners support education about HF and successful disease management. As a result, the goal of the capstone project is to fulfill the need of further education of those practitioners who provide care to individuals with HF. The research aims to demonstrate evidence that providing education to healthcare professionals on disease management for individuals with HF can promote knowledge of best practice and continuity of care.

Section Three: Methods

Project Design

This quantitative study will address OT's role in increasing knowledge on educational points for this disease through dissemination of educational materials in an in-service. The design of the study involves collecting demographic data, collecting pre and post survey information to evaluate the knowledge of the participants about the HF population, and gathering participant satisfaction following the study. More specifically, the study was completed through educational in-services to encourage best practice in HF disease management and social support. The educational in-service allows for modifications and improvements to be made to increase the knowledge base of those in attendance.

The intent of the in-services is to increase the participants' ability to provide sound patient education and validate OT's role with the HF population. The goal of the capstone project is to allow for beneficial modifications, resulting in the improvement of care provided to HF patients and allowing for the provision of better healthcare to individuals with HF. Modifications and improvements will be more readily ascertainable upon the completion of the in-service and variations made according to the findings. Possible modifications include, but are not limited to, improved awareness of health condition, improved knowledge to provide client-centered care, improved ability to encourage participation in meaningful occupations for individuals with HF, and improved care across the continuum of care. These modifications can promote the ability to provide more informative care but will also allow healthcare practitioners to better advocate and allow for improvements in disease management for this population.

Based on evidence found by the researcher, an educational in-service via PowerPoint was created to provide current and appropriate education about HF to the participants. Various topics

were discussed and included: stress management/coping strategies, energy conservation/work simplification, diet, symptom recognition and management, lifestyle changes, ADL/IADL participation, medication regimen, caregiver education, physical activity/exercise, importance of social support, and patient monitoring. Each of the topics discussed provided unique education on information to be disseminated, to the target population following the educational in-service. Each topic has specific educational points to increase the congruency for educating individuals with HF to ensure continuity of care.

An Institutional Review Board (IRB) application was submitted to Eastern Kentucky University by the researcher on December 9, 2018. IRB approval was then granted on January 14, 2019. The researcher completed two educational in-services prior to a third being requested through Cape Fear Valley Health System (CFVHS). Therefore, the researcher completed and submitted an IRB form revision on February 2, 2019. This revision was then approved on February 6, 2019 to which a final educational in-service was then completed. Following the completion of the educational in-services, the researcher entered the data from all pre/post questionnaires to an excel spreadsheet and participants were given identification based on participants' codes listed on questionnaires.

Outcome Measure

The outcome measure for this capstone project was a participant-reported outcome based on a pre- and post-test questionnaire developed by the researcher. This questionnaire was developed, based on research from Aguannon and Samson (2018) and Mosalpuria et al. (2018), following critical appraisal of evidence found in the completion of the literature review. The questionnaire had 20 structured inquiries based on the educational in-service. The questions for the outcome measure were multiple choice analysis and a participant satisfaction survey.

Additionally, the outcome measure had questions specific to ensure objectives of the capstone project were met. Moreover, the outcome measure developed provided validity and reliability to measure the impact of the educational in-service provided to the participants.

Appendix A provides information and consent to the participants along with development of the participants' unique unidentifiable code. Appendix B depicts the pre-survey questionnaire in relation to demographics gathered of the participants, while Appendix C disseminates the multiple-choice questions regarding public knowledge of the research topic to be completed before and after the educational in-service. Finally, Appendix D discloses the survey questions for the participants to rate the in-service and presenter based on personal satisfaction.

Setting

The setting of the capstone project was at a private university and a health care system in southeastern United States. This researcher partnered with CFVHS and the OT Program at Methodist University in Fayetteville, North Carolina. The private university offers over 80 undergraduate degrees and six graduate programs (Methodist University, n.d.). The university has approximately 2,300 students enrolled, including 300 graduate students (Methodist University, n.d.). Additionally, the health care system provides care to patients across the continuum of care. This is evidenced through employment of healthcare practitioners in the acute care hospital (600 beds), the rehabilitation hospital (78 beds), the long-term acute care hospital (66 beds), and various outpatient clinics (6 clinics) (Cape Fear Valley Health, n.d.). The healthcare system, specifically the rehabilitation department (occupational therapists, occupational therapy assistants, physical therapists, physical therapy assistants, speech-language pathologists, therapy aides), employees approximately 120 individuals (Cape Fear Valley Health, n.d). The leading vision of CFVHS is improving the quality of every life we touch, in every way

(Cape Fear Valley Health, n.d.). CFVHS vision aligns with the need for improved knowledge when providing care for individuals with HF. Moreover, CFVHS demonstrates values of patient-centeredness, integrity, cultural diversity, innovation, teamwork, and accountability (Cape Fear Valley Health, n.d.).

As noted, the researcher also partnered with the OT Program at Methodist University in Fayetteville, North Carolina. Methodist University's Doctorate of OT program promotes "delivering the most contemporary, high-quality educational experience to train future practitioners that are compassionate and ethical leaders who will engage, enrich, and empower the lives and communities they serve" (Gronski, n.d.). The researcher's current place of employment and Methodist University have a working relationship and therefore the researcher reached out to the OTD program director. Per discussion with the director of the OTD program at Methodist University, first year OTD students were selected to participate in the education in-service. The in-service was disseminated to the students in their second semester of the program and was provided outside normal class times. Therefore, it was discussed, however not confirmed, the director offered extra credit for students to attend. Per discussion above, the in-service met the needs based on the vision and values within the healthcare system and the OT program at a university level.

Inclusion/Exclusion Criteria

Participation for the project was open to healthcare practitioners within the health care system and students enrolled in allied healthcare fields. Inclusion criteria for the capstone project were healthcare professionals within the CFVHS and students enrolled in the allied health programs who volunteered to participate. Exclusion criteria were determined to be healthcare professionals that work outside the CFVHS and students enrolled outside allied health programs. Voluntary

enrollment was determined by the participants agreeing to the consent information attached to pre-survey content (Appendix A).

Data Collection

Prior to and following the completion of the educational in-services, data was gathered through pre- and post-test questionnaires completed by participants. The researcher gathered information regarding the effectiveness of the in-service and clinical knowledge gained to better provide services to individuals with HF. In addition, prior to completion of the in-service, initial demographic data was collected (Appendix B). This data collected identified participants' career/credentials, gender, level of education, and level of experience with individuals with HF as a primary or secondary diagnosis. Moreover, prior to dissemination of the educational in-service, participants completed a pre-questionnaire (Appendix C) with multiple choice questions regarding knowledge of HF, OT's role with HF, and information regarding support for individuals with HF. Following the completion of the in-service, participants completed the same multiple-choice questionnaire, as depicted above. In addition, participants completed a Likert-type survey (Appendix D) which gathered information related to satisfaction of the content provided during the in-service presentation. These questions included but were not limited to; effectiveness of the in-service, correlation to educational information and increased confidence in providing services, factors that influenced participation in the in-service, adequacy and satiety of educational session, limitations to participation and providing care to this patient population, positives of the in-service, and constructive feedback.

The researcher provided participants with informed consent forms to review based on their voluntary commitment and given to each participant to develop their unique code. The researcher then distributed the pre-test questionnaires to the participants to be completed prior to

the in-service start. Following the completion of the questionnaires, the researcher completed the two-hour educational in-services as depicted through a PowerPoint presentation as noted above in project design. Once the in-services were completed, the researcher answered any final questions and distributed post-test questionnaires and surveys for the participants to complete. Upon the completion of both the pre- and post-test questionnaires and surveys, the researcher had separate manila envelopes in which the participants anonymously placed their questionnaires.

Data Analysis

Following the collection of data, the data was inputted and analyzed via Microsoft Excel Spreadsheet. Data that was analyzed and interpreted was then saved in the spreadsheet for completion of this capstone. Validity and reliability of data analysis was completed through figure checking with paper questionnaires to ensure accuracy with data. Data coding was completed to input the appropriate responses from the participants which correlated with their unique and individualized code (Appendix A). Data checking was completed, to ensure accuracy of data inputted, through researcher checking against raw data for missing and/or out-of-range values. The researcher then performed data cleaning to ensure consistency with the data inputted prior to statistical analysis by comparing data inputted in the excel spreadsheet against the raw data found on the questionnaires. Data analysis was performed based on inferential statistics for quantitative data.

Paired *t*-tests were utilized to measure the analytics of the pre/post questionnaires administered to the participants. Paired t-tests were selected as they compare the means from a single group of participants at two different points in time (Taylor 2017). Additionally, paired *t*-tests are typically reported through not only the comparison of the means but also by the

significance value (Taylor 2017), which is important when evaluating the effectiveness of the in-services provided.

Ethical Considerations

The researcher identified ethical considerations that were accounted for during the completion of this project. Prior to conducting the capstone, the researcher analyzed AOTA's Code of Ethics to ensure all rules and regulations set forth by the governing institute for OT research were abided by. Moreover, the researcher sought approval through the IRB of Eastern Kentucky University as noted in project design. Following the completion of the educational in-services, the researcher inputted data from all pre/post questionnaires and participants were given identification based on participants number listed on questionnaires. The researcher gained local permission through a letter of support with CFVHS, Methodist University, and gained permission from the participants before beginning the educational in-service. Once the project began, the researcher verified the exploration was beneficial to the participants by ensured non-maleficence, to refrain from actions which may cause harm, as well as disclosed the purpose of the study to each participant (Occupational Therapy Code of Ethics, 2015). Additionally, the researcher took into consideration cultural context for all participants and met fidelity with each individual participant by treating them with respect, fairness, and integrity (Occupational Therapy Code of Ethics, 2015).

During the data collection process, the researcher gained trust and ensure all participants received the same treatment during the in-service. The researcher avoided any misunderstandings by fully disclosing the purpose of the capstone and how the data was to be utilized. Moreover, the researcher identified potential power imbalances, avoided leading questions, and withheld sharing personal impressions of the participants. In addition, prior to

completing the educational in-services, participants reviewed an informed consent form to ensure voluntary participation in the project (Appendix A). Once the data was analyzed, the researcher accurately reported the data and recorded any positive and/or contrary findings, all while respecting the privacy and anonymity of the participants. These steps were taken to account for ethical considerations that arose during the research process.

Timeline of Project Procedures

Following obtaining letters of support from CFVHS, Methodist University, and the IRB, the researcher conducted three educational in-services two at CFVHS and one other at Methodist University. The educational in-services took place in the OT/PT gym at Cape Fear Valley Rehabilitation Center (CFVRC) located at 1638 Owen Drive Fayetteville, North Carolina 28304, at Methodist University located at 5400 Ramsey Street Fayetteville, North Carolina 28311, and at the Long-Term Acute Care Hospital within the CFVHS located at 150 Robeson Street Fayetteville, North Carolina 28301 in January and February 2019. Data was collected and analyzed as noted previously. Following the data collection and analysis process, the results and entirety of the research project was then disseminated to individuals at Eastern Kentucky University for the completion of the Doctorate of Occupational Therapy (OTD) Program in May 2019.

In summary, the timeline for project procedures are as follows:

November 2018	Obtaining Letters of Support from CFVHS and Methodist University
November 2018	Development of Pre/Post Questionnaires
December 2018 to January 2019	Approval from IRB
December 2018 to January 2019	Sending Letter to Potential Participants
January 2019 to February 2019	Obtaining Informed Consent Prior to In-services
January 2019 to February 2019	Completing Pre-In-service Questionnaire
January 2019 to February 2019	Completing Educational In-services at CFVRC and Methodist University

January 2019 to February 2019	Complete Post-In-Service Questionnaire
February-March 2019	Performing Data Analysis and Determining Results of Research
March-May 2019	Creating and Disseminating Capstone Dissertation to Obtain Doctorate of Occupational Therapy (OTD)

Section Four: Results and Discussion

Introduction

The desired outcome of this capstone project was to provide education to current and future healthcare practitioners of the importance of OT's role in working with individuals with HF. This was completed through three educational in-services targeted to healthcare students and healthcare practitioners. Methodist University students and CFVHS practitioners in Fayetteville, North Carolina were provided educational in-services on OT's role for serving individuals with HF. Pre- and post-surveys were administered to determine the effectiveness of the in-service. The initial in-service was provided to Methodist University on January 29, 2019 where 29 students participated in the educational in-service. The in-services at CFVHS, considered both interprofessional and intraprofessional education, were provided on January 31, 2019 and February 11, 2019 to a total of 22 healthcare practitioners and three students.

Results of Evaluation of Project Objectives

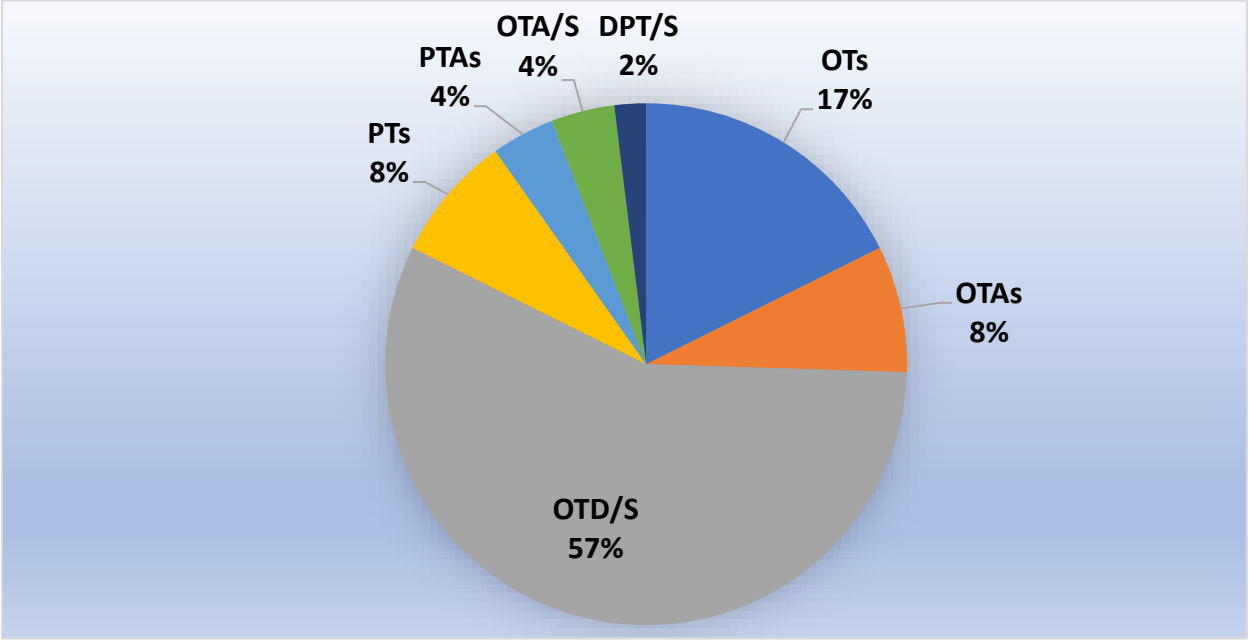
The project objectives for this capstone study were as follows:

1) Does participation in an educational in-service increased the knowledge of allied health care practitioners and students about the importance of OTs role in disease self-management with HF patients?
2) Do participants demonstrate an increased knowledge in best practice management of heart failure as evidenced through responses from pre/post-presentation surveys?
3) Do participants demonstrate improved confidence in ability to focus on non-medical needs of those with heart failure such as personal and social support, transportation, patient engagement, and access to outside resources?

Quantitative Data/ Data Analysis

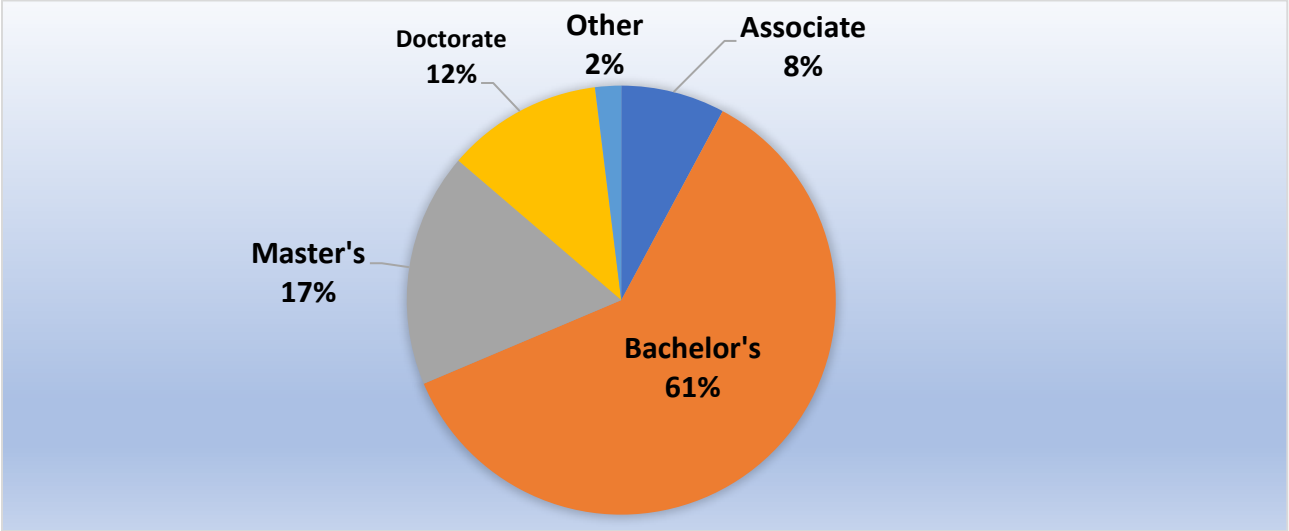
Descriptive data was collected on the demographics of the participants, including professional status, level of education, and years of experience. As noted in Figure 1, demographics for the participants (n=51) were divided into nine OTs, four OTAs, twenty-nine OTD/S, four PTs, two PTAs, two OTA/S, and one DPT/S.

Figure 1: Percentage of Participants: Based on Career/Professional Title



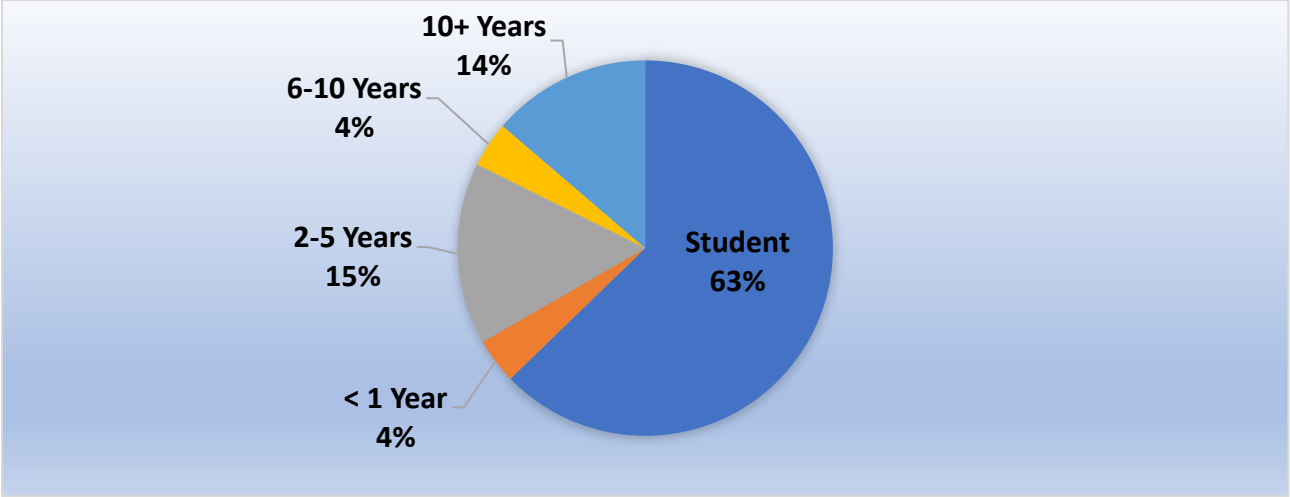
Regarding level of education for the participants, four reported having an Associate degree, thirty-one reported having a Bachelor's degree, six reported having a Doctorate degree, and one reported having an Army Certificate, as depicted in Figure 2.

Figure 2: Percentage of Participants: Based on Highest Level of Education



Of those participants, thirty-two were students, two had one year or less of experience, eight reported had two to five years of experience, two had six to ten years of experience, and seven with ten years or more of experience in their field of practice, as seen in figure three . Of the fifty-one participants, forty-nine were female and two were male.

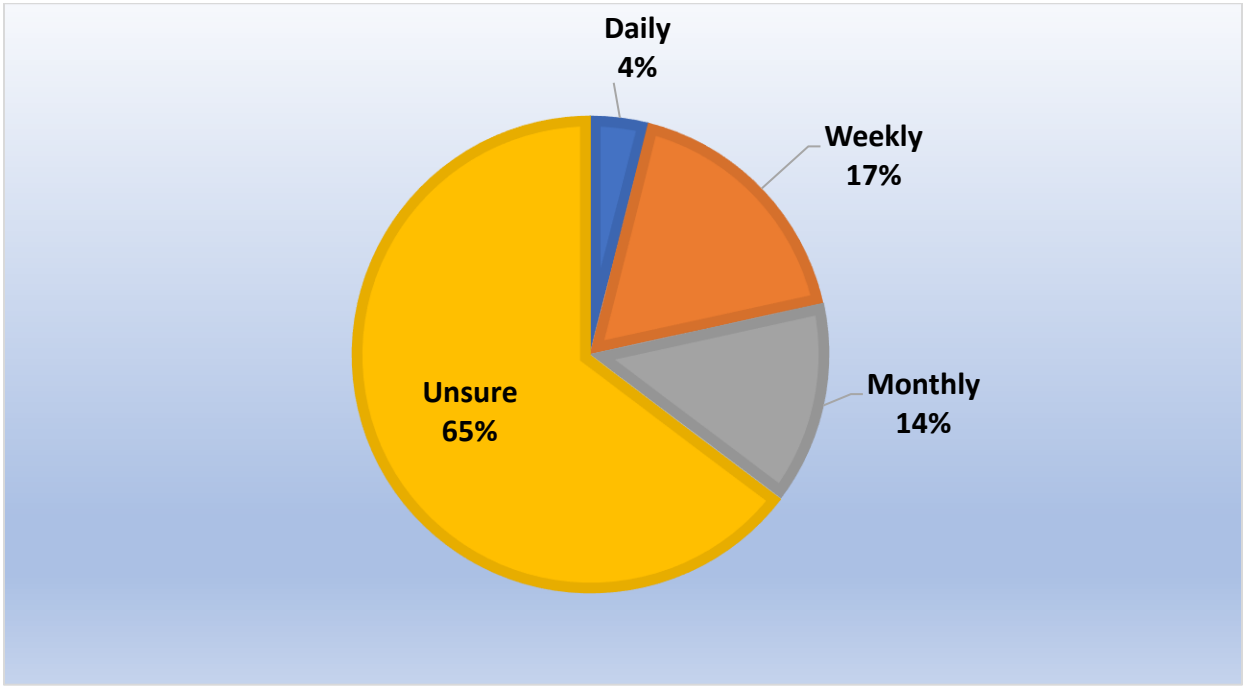
Figure 3: Percentage of Participants: Based on Years of Experience



Additional descriptive data collected consisted of how frequently participants treated clients with a HF diagnosis and if the client's HF diagnosis was a primary or secondary diagnosis. As noted in Figure 4, frequency of treatment that is provided for individuals with HF

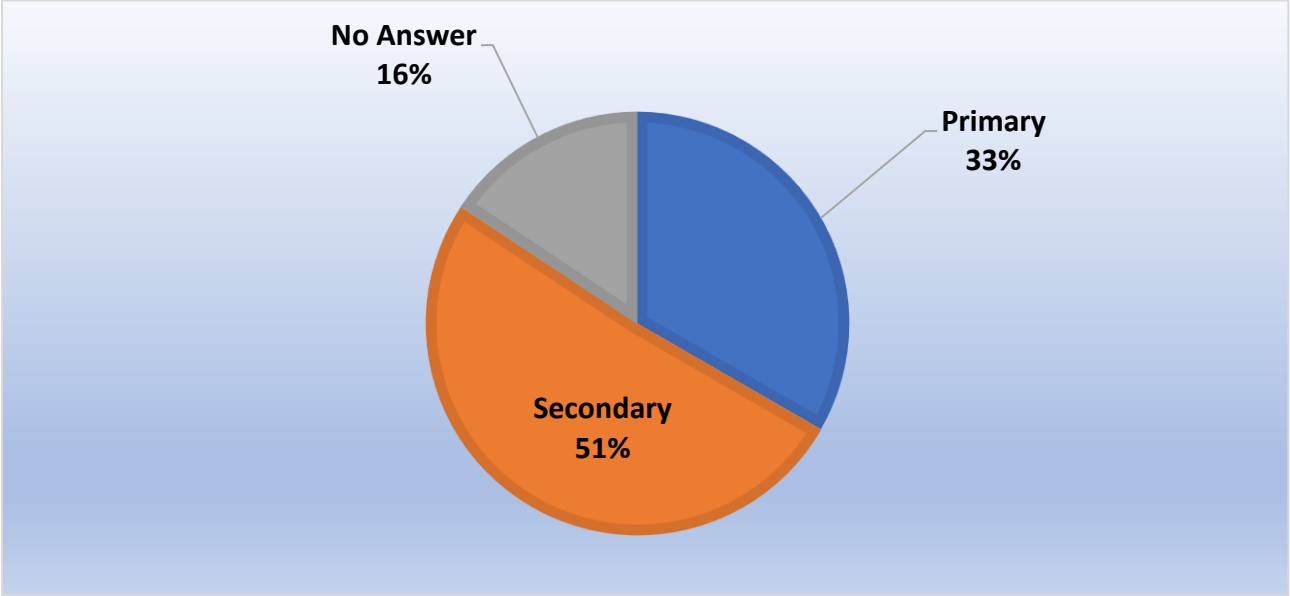
ranged from two providing treatment daily, nine providing treatment weekly, seven providing treatment monthly, and thirty-three being unsure of the frequency of their treatment for this patient population.

Figure 4: Percentage of Participants: Frequency of treatment with HF individuals



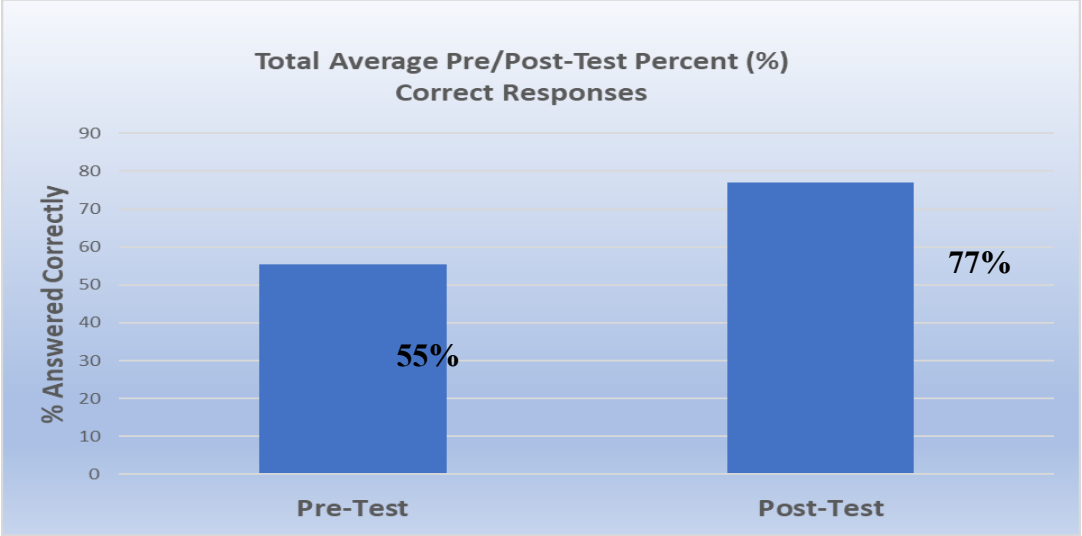
Finally, of those individuals receiving HF treatment from participants, seventeen sought to provide treatment for HF as the primary diagnosis, twenty-six provided treatment of HF as a secondary diagnosis, and eight participants did not report whether they provided treatment for these individuals based on a primary or secondary diagnosis as shown in Figure 5.

Figure 5: Percentage of Participants: HF Based on Diagnosis



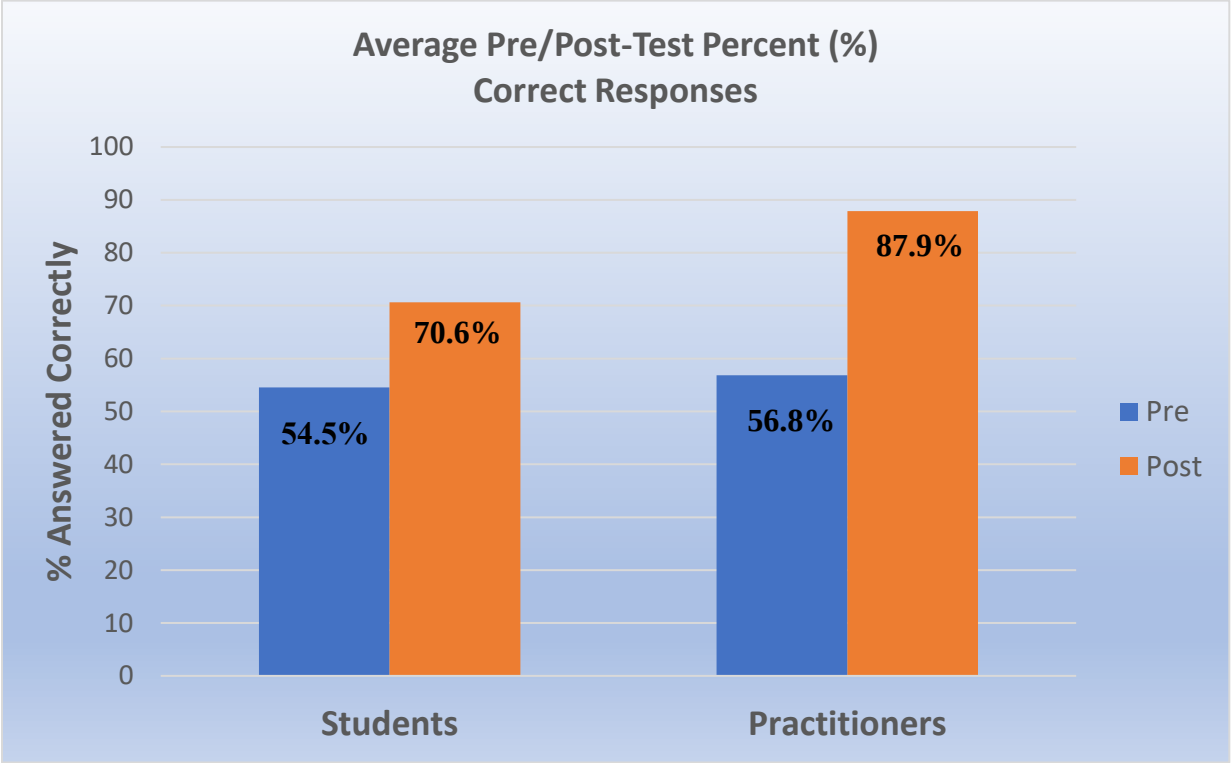
Participants' scores from the 20 question pre- and post-surveys (Appendix C) were compared as a group. Pre-survey scores means were 55.00% regarding participants understanding of professional knowledge in relation to HF. Post-survey scores were 77.00% with a noted increase of 21.66% for percentage of correct responses from pre- and post-surveys as noted in Figure 6.

Figure 6: Total Participants Pre/Post



Students' pre/post score means were 54.53%/70.62% and score means were 56.84%/87.89% for practitioners as depicted in Figure 7. Based on the results in Figure 7, both students and practitioners gain knowledge during the educational in-services. Practitioners, however, demonstrated an overall increase in percent of correct responses from pre- to post-survey of 31.05% as compared to students who increased their percent of correct responses by only 16.09%. When comparing students versus practitioners, practitioners demonstrated greater improvement in pretest/posttest differences by 17.27%.

Figure 7: Average Pre/Post: Students vs Practitioners



A paired *t*-test was completed to analyze the pre-and post-survey scores to determine statistical significance of changes in the scores after participants engaged in the Heart to Heart in-service. As noted in Table 1, paired *t*-tests of the pre- and post-surveys determined that the professional in-service provided to future and current practitioners was statistically significant

($p<0.05$). A *t*-test comparing the differences between the practitioner and student group was statically significant ($p=0.00005$).

Table 1: Paired Samples Test: Pre/Post Survey

Paired Difference				95% Confidence Interval	Of the difference			
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2 tailed)
Pair 1 pre-post	-21.67	41.51	2.03	-25.75	-17.58	-10.66	50	.000

Based on analysis performed for total correct responses of the 20 individual questions, participants showed overall improvement in ability to correctly answer the multiple-choice questions following dissemination of information during the educational in-service as noted in Table 2. Apart from two questions in red (Q7, Q19), participants showed an overall increase in percentage of correct responses as seen in Table 2. For question 7, participants showed a decrease in knowledge related to various ways to increase social support for individuals with HF. Additionally, for question 19, participants' scores were the same pre/post test related to what multidisciplinary team management can achieve for this population.

Table 2: Total Correct Percent Pre/Post Based on Questions

Question	Correct Pre-	Correct Post-	Difference
1	68.63	100	31.37
2	86.27	100	13.73
3	84.31	100	15.69
4	35.29	70.59	35.30
5	19.60	86.27	66.67
6	64.0	70.59	6.59

7	96.08	74.51	-21.57
8	5.88	74.51	68.63
9	17.65	86.27	68.62
10	49.02	94.12	45.10
11	17.65	33.33	15.68
12	84.31	94.12	9.81
13	17.65	50.98	33.33
14	82.35	84.31	1.96
15	98.04	100	1.96
16	82.35	94.12	11.77
17	45.10	54.90	9.80
18	94.12	96.08	1.96
19	9.80	9.80	0
20	50.98	66.67	1.96

As depicted in Table 3, practitioners demonstrated an overall increase in ability to correctly respond to multiple choice questions following the educational in-service as compared to students.

Table 3: Total Correct Percent (%) Pre/Post: Students vs Practitioners Based on Questions

Question	Students Pre-	Students Post-	Diff.	Practitioners Pre-	Practitioners Post-	Diff.	Practitioners vs. Students Diff.
1	65.63	100	34.37	73.68	100	26.32	8.05 (S)
2	81.25	100	18.75	94.74	100	5.26	13.49 (S)
3	81.25	100	18.75	89.47	100	10.53	8.22 (S)
4	43.75	68.75	25	21.05	73.68	52.63	27.63 (P)
5	15.63	84.38	68.75	26.32	89.47	63.15	5.60 (S)

6	56.25	53.13	-3.12	73.68	100	26.32	29.44 (P)
7	96.88	62.50	-36.38	94.74	94.74	0	-36.38 (S)
8	6.25	62.50	56.25	5.26	94.74	89.48	33.28 (P)
9	15.63	84.38	68.75	21.05	89.47	68.42	0.33 (S)
10	59.38	90.63	31.25	31.56	100	68.44	37.29 (P)
11	15.63	15.63	0	21.05	63.16	42.11	42.11 (P)
12	81.25	93.75	12.5	89.47	94.74	5.27	7.23 (S)
13	15.63	25.00	9.37	21.05	94.74	73.69	64.32 (P)
14	84.38	78.13	-6.25	78.95	94.74	15.79	22.04 (P)
15	96.88	100	3.12	100	100	0	3.12 (S)
16	78.13	90.63	12.5	89.47	100	10.53	1.97 (S)
17	50.00	40.63	-9.37	36.84	78.95	42.11	51.48 (P)
18	90.63	93.75	3.12	100	100	0	3.12 (S)
19	1.25	6.25	5	15.19	5.26	-9.93	14.93 (S)
20	50.00	56.25	6.25	52.63	84.21	31.58	25.33 (P)
Total	50.53	70.31	15.93	56.81	87.90	31.09	18.13 (P)

Table 4 shows percentage of correct responses based on questions being coded specifically to the three research objectives of 1) disease management and HF, 2) best practice management and HF, and 3) nonmedical needs in relation to HF. This table illustrates students and practitioners achieved an increase in ability to correctly answer questions for pre/post survey scores, for all three correlative research objectives of increasing knowledge regarding HF.

Table 4: Questions Coded Based on Objectives with Percent of Correct Responses

Objectives	Students Pre-	Students Post-	Diff.	Practitioners Pre-	Practitioners Post-	Diff.	Total Pre-	Total Post-	Diff.
Disease Management (Qs. 4,5,6,7, 8,9,10)	42.0%	72.3%	+30.3%	39.1%	91.7%	+52.6%	40.5%	82.0%	+41.5%
Best Management (Qs 1,2,3, 17,19,20)	54.9%	67.1%	+12.2%	60.4%	78.1%	+17.6%	57.7%	72.6%	+14.9%
Nonmedical Needs (Qs 11,12, 13,14,15, 16,18)	66.1%	70.6%	+4.5%	71.4%	92.5%	+21.0%	68.8%	81.5%	+12.8%

After the Heart to Heart in-service, session information and satisfaction regarding the in-service was rated on a scale of one to four. Likert-scale ratings were as follows; 1= Not Helpful, 2=Minimally Helpful, 3=Moderately Helpful, and 4=Very Helpful. As depicted in Table 5, participants reported a mean of 3.94 regarding the presenter's knowledge on the topic, 3.92 when rating the helpfulness of the handouts provided during the in-service, 3.92 was the mean for the knowledge provided being pertinent to clinical practice, 3.90 when reporting the helpfulness of the information presented during the in-service, a mean of 3.90 regarding the education being helpful in providing increased knowledge of OT's role for individuals with HF, 3.84 was reported by participants in their ability to provide care for individuals with HF based on the information presented during the in-service, 3.71 reported as a mean for the in-service providing increased knowledge of OT's role in leading community support groups, and finally a mean of 3.69 was reported regarding participants incorporating information from the in-service into their daily practice.

Table 5: Means of Session Information and Satisfaction (rated on scale of 1-4)

Topic	Mean
Presenter's knowledge on the topic	3.94
Helpfulness of handouts	3.92
Knowledge provided being pertinent to clinical practice	3.92
Helpfulness of information	3.90
Education provided increased knowledge of OT's role and HF	3.90
Ability to provide care of individuals with HF following in-service based on information provided	3.84
In-service provided increased knowledge of OT's role and community support groups	3.71
Likelihood of incorporating information into daily practice	3.69

Discussion

Based on the results from the study, the educational in-service on OT's role in working with clients with HF provided to current and future healthcare practitioners met the three research objectives. Pre-test and post-test scores demonstrated participation in the educational in-service increased the knowledge of the allied health participants about the importance of OT's role in disease self-management with HF patients and best practice management of HF significance. The results indicated the importance of educating OTs/OTAs and other healthcare professionals about clients with HF. IPE assists with client-centered education which purposefully fosters mutual understanding between disciplines and professions (Coidakis-Barrs & Patchell, 2019). Having a mutual understanding of the needs of the HF clients OT's serve allows for best practice amongst various healthcare practitioners who work with those with this chronic condition.

Practitioners demonstrated the ability to perform better by 17.27% as compared to the students on the post- survey following the in-service. Practitioners have the clinical expertise of providing patient care which allows for them to demonstrate clinical reasoning skills (O'Brien & McNeil, 2013), where the students lack these skills which could have added to the difference in percentages. In relation to providing education to individuals who serve HF clients, awareness of and knowledge for IPE can lead to better collaboration among healthcare teams and better outcomes for those clients (Lalani & Gibbs, 2018).

Conversely, there were two questions in which participants did not show improvement. The question which participates showed negative improvement was related to various ways to increase social support for individuals with HF. Additionally, the question which participants showed no improvement was related to what multidisciplinary team management can achieve for this population. This could be due to the questions being worded poorly by the researcher. Another reason the participants may not have shown improvement on these questions could be because the researcher did not spend sufficient time on these topics during the educational in-services.

In analyzing objective one, based on scores presented from pre- and post-surveys, there was an overall increase of 14.93% for participants in demonstrating increased knowledge in best practice management of HF. More specifically, students showed an increase of 12.22% while practitioners showed a 17.64% improvement following the educational in-service to answer the questions related to best practice. This provides the participants with skills to have a better understanding of when HF occurs, the most common type of HF, and how to successful provided education to not only those individuals but also other members of the healthcare team.

Current literature regarding IPE highlights utilization of a multidisciplinary team for disease management, that emphasizes self-management and patient education and is associated with enhancing a person's ability to manage their HF successfully (Norberg, Boman, & Lofgren, 2008). As presented in allied health practice research, an interprofessional team approach for individuals with HF, which emphasized education over a six-month period, decreased number of hospital readmissions for individuals with HF based on a pre- and post-test analysis (Shah, Forsythe, & Murray, 2018). This article also found, there is a correlation of interprofessional care to reduction of readmissions, improved patient-provider satisfaction/relationship, and decreased cost for individuals with HF (Shah, Forsythe, & Murray, 2018). Completing this capstone project by providing education to current and future healthcare practitioners suggests the ability to improve patient outcomes as represented in the literature. IPE is the basis for interprofessional collaboration in healthcare (Felix, Bode, Giesler, Heinzmann, Krüger, & Straub, 2016). The ability to work as an interprofessional team with various disciplines as a student will hopefully increase one's ability to work as an interprofessional team to collaborate effectively when they become a practitioner (Felix et al., 2016). Based on this, there is a connection between IPE and interprofessional healthcare when providing care to individuals with HF. Interprofessional healthcare and education need not only focus on the medical needs of this client population but also the knowledge and ability to address non-medical needs as well. It is evident within research that OT enables improvement in adherence to disease management to promote current health care reform (Leland et al., 2017).

When reflecting on objective two, as depicted in Figure 4, the frequency of treatment provided for individuals with HF had thirty-three participants being unsure of the frequency of their treatment for this patient population. Thirty two students completed the survey, so an

assumption can be made that the students may not have treated clients with a HF diagnosis yet. With having an increase in frequency of providing treatment to HF individuals, it is important to ensure healthcare practitioners are providing accurate education across the continuum of healthcare professions for best practice. As noted, nearly half of the participants expressed serving individuals with HF as a secondary diagnosis. Despite this, it remains important for the students and practitioners to be aware of appropriate education to understand the impact the heart disease may have on therapy intervention, such as precautions and contraindications. Even as a secondary diagnosis, HF influences clients' occupational performance (Norbeg et al., 2013). These include but are not limited to; redefining an active life, aware of one's impaired body, realizing one's limited activity ability, striving to preserve an active life, focusing on meaningful activities, and changing vs. not changing habits and roles. More specifically the ability of individuals with HF to plan activities and balance the degree of effort, limiting, organizing, and rationalizing activities, adjusting activities to today's abilities, and using technology and adapting the environment can improve occupational performance (Norberg et al., 2013) allows for best practice management of HF. These influences are crucial to consider when providing education to healthcare practitioners, so they are targeted when providing patient education.

For objective three, participants demonstrated an improved confidence in ability to focus on non-medical needs of those with HF such as personal and social support, transportation, patient engagement, and access to outside resources through increasing their scores following the educational in-service. This is indicated in the improved performance of pre-/post- survey scores from 68.76% to 81.52% on questions related to the areas of nonmedical needs. Being able to provide appropriate education and address nonmedical needs with this client population can promote preventive medicine and hopefully delineate individuals from having poor disease

management. Findings from the literature have promoted preventive measures for delivering optimal care to individuals with chronic conditions through focusing on self-management (Leland et al, 2017). OT's demonstrate the skills to address common causes of non-adherence that impedes disease management for individuals (Schwartz & Smith, 2017).

Increasing current and future healthcare practitioners' knowledge of OT's role for individuals with HF has the potential to increase the length of time individuals with HF can maintain their functional independence. Research shows that individuals with HF are more independent with ADLs and IADLs based on their ability for self-management of their disease process (Norberg, Boman, & Lofgren, 2008). OT is able to provide education on the importance of ADL/IADL participation and incorporation of energy conservation techniques. Furthermore, OT can provide appropriate adaptation of tasks, use of assistive technology, and occupational modifications, as noted above, for success in their ability to manage their disease effectively to limit dependency (Norberg, Boman, & Lofgren, 2008).

The effectiveness of this information, through the educational in-services, demonstrate the overall above average rating for participant satisfaction of the educational components provided by the researcher. Based on Table 5, participants rated the presenter's knowledge on the topic very high, 3.94 out of 4, which potentially contributed to the participants ability to increase their overall scores on the post-test following the educational in-service. Additionally, participants rated highly, 3.92, on the helpfulness of handouts and the knowledge being provided pertinent to clinical practice. This could have also had a contributing factor to higher post-test scores as the participants were able to follow along effectively during the in-services and found the knowledge relatable to their current practice, which shows the benefits of provided education to healthcare students and professionals. Finally, participants expressed their agreement with the

information being helpful and that the education provided increased their knowledge of OT's role and HF as they rated these questions at a 3.90. By effectively providing interprofessional and intraprofessional education and increasing knowledge of OT with specific client populations it demonstrates not only that OT practitioners can be effective as part of an interdisciplinary team, but also have the ability to be leaders in the profession.

OT can provide a leadership role in working with individuals with HF, as well as educating others about influences that contribute to their occupational performance. These include but are not limited to; redefining an active life, aware of one's impaired body, realizing one's limited activity ability, striving to preserve an active life, focusing on meaningful activities, and changing vs. not changing habits and roles (Norberg et al., 2013). More specifically the ability of individuals with HF to plan activities and balance the degree of effort, limiting, organizing, and rationalizing activities, adjusting activities to today's abilities, and using technology and adapting the environment can improve occupational performance (Norberg et al., 2013). With the IPE in-service results indicating statistical significance in increasing knowledge of the participants about providing education and support for HF individuals, OT's ability to provide education for healthcare practitioners. To adequately, appropriately, and consistently provide education and support the HF population, healthcare practitioners' knowledge could potentially decrease the negative effects this disease has on the individuals living with HF. Continuity of care and effective education for this population has the potential to decreased poor self-management that is currently present amongst individuals with HF. OT's taking leadership in educating other allied health students and practitioners about OT's role in working with HF clients can ultimately improve the overall healthcare that individuals with HF receive.

Summary of Findings

This capstone project was to provide education for current and future healthcare practitioners of the important of OT's role for individuals with HF. A quantitative analysis of the data reveals that project objectives were met. Raw mean scores of the participants' pre-survey scores were 55.39% while post-survey raw means were 77.06% with an increased percentage of 21.66% from pre- and post-survey scores. Based on these findings, the educational in-service provided to the participants was deemed effective in increasing knowledge of disease management for individuals with HF, demonstrating OT's role for individuals with HF, and the importance of providing various types of nonmedical support for individuals with HF to successfully manage their disease.

Strengths and Limitations

A strength of the project was the structure of the educational in-services to disseminate the information to the participants through appropriate and accurate HF information. There were no studies in the literature of OT's educating OT/OTA/PT/OTA students and health care professionals about OT's role in work with clients with HF on disease management. The researcher has identified emerging trends for a leadership role in OT's educating other allied health students and professionals about providing care to individuals with HF.

Conversely, limitations are noted to be a small sample size and limited variance between the demographics of the participants based on gender, years of experience, and level of education. The lack of evidence related to OT and HF presents limited guidance to this study. An additional limitation is scheduling conflicts limited variety of students from allied health care fields. This limitation was also present with in-services provided at CFVHS as not all practitioners were able to attend due to scheduling conflicts.

Implications for Practice

This capstone project identifies the need to provide education to healthcare practitioners about OT's role in working with individuals with HF. The capstone aligned with Healthy People 2030 objectives to eliminate health disparities while promoting leadership across multiple sectors for improvement in health and well-being of all (Healthy People, 2018). The project and educational in-services that were disseminated demonstrate a connection to the American Occupational Therapy Association's (AOTA) Centennial Vision and their 2025 Vision. AOTA's 2025 vision states that "occupational therapy maximizes health, well-being, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday living" (American Occupational Therapy Association, 2017). Allied health practitioners and students, such as OT's and PT's, can have a better understanding of OT's role in working with the HF population. Other health care students and practitioners also gained a better understanding of OT's role in health care overall based on this capstone.

OT's can be leaders in the process of educating other healthcare professionals about individuals with HF and the availability of education and support for HF clients and their loved ones. Being a transformational leader with this population can promote the ability of other practitioners to advocate for the common good for clients to be successful in their own disease management. Through transformational leadership, current and future practitioners will move towards higher standards of responsibility (Northouse, 2015) which is essential in providing influential and effective patient education. Through providing HF education to current and future practitioners, practitioners will then be able to disseminate the information in a way that is more understandable and appropriate to the HF clients whom they are serving. Providing

appropriate education to the populations we serve allows for improved continuity of care across healthcare systems, which can lower cost and improves patient outcomes.

Future Research

There is still much to learn about OT's role in relation to assisting with HF education both from an interprofessional, intraprofessional, and a client perspective. Until more specific evidence is presented on OT's role in disease management of HF, educating other health care professionals on OT's role in health care, and the ability for OT's to provide support to individuals with HF, the HF population will continue to be underserved. Important areas for future research include defining and evaluating OT's role in effective disease management education for clients and offering support from a social and community standpoint to individuals with HF and their families/caregivers.

Performing research to allow for better articulation of the need for OT within health care in general and more specifically our role for individuals with HF is important. Many opportunities exist for the OT profession in this area of practice. There is limited evidence on our effectiveness to assist individuals with HF in promoting participation in meaningful occupations through effective disease management. In moving forward, with more research in these areas, OT will be better delineated, thus having the potential to improve health delivery for the individuals with we serve.

Summary

This capstone project aimed to provide education for current and future healthcare practitioners of the importance of OT's role for individuals with HF. The results from the study support providing structured interprofessional and intraprofessional education to current and

future healthcare practitioners to allow for increased understanding and ability to provide care for individuals with HF.

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Appendix A

INFORMATION AND CONSENT

The purpose of this study is to provide education for current and future healthcare practitioners of the importance of OT's role for individuals with HF and the importance of increasing social and community support for individuals with heart failure (HF). If you agree to participate in this study, you will be asked to complete a pre and post questionnaire, in addition to attend an in-service as depicted above in the purpose statement.

For this study, the researcher will be collecting both pre and post questionnaires for the data analysis process. Approximate time commitment is no more than 4 hours. No personally identifying information shall be incorporated into any publication or presentation in which information for data from this research is used. Each participant shall generate a six-digit code which shall be used and placed in the top right corner of all study documents. The six-digit code shall be comprised of the first two letters of your middle name (use XX if no middle name), the two-digit day of the month you were born, and the first two letters of your birth city.

Example: John Doe Smith –

DOB: 01/20/1990

City of Birth: Fayetteville, North Carolina

Example Six-Digit Code: DO20FA

Participants agree they have been given the opportunity to make all inquiries into and about the study and have received answers sufficient to such inquiries. Participants also agree that if any

additional questions should arise, they should contact Samantha Marie Barefoot, OTR/L by phone at (919) 939-0212 or via email at samantha_barefoot@mymail.eku.edu.

Participants further agree that completion of the surveys shall be treated as consent to take part in this study and acknowledges that he/she is fully informed of what this study involves and that no identifying information shall be collected.

Appendix B

Heart to Heart Educational In-service
Pre-Survey for Spring of 2019 Participants

Demographic Information

1. Career/Credentials: What is your current professional title (OT, OTA, OTS, PT, PTA, PTS, etc.)?
    a.
2. Number of years you have practicing as a professional OT/PT/etc.:
    a. Student
    b. 1 year or less
    c. 2-5 years
    d. 6-10 years
    e. 10 or more years

3. If you answered Student to the question above, which of the following describes the year of education?
    a. 1st year
    b. 2nd year
    c. 3rd year
    d. Other: specify_____

4. Gender:
    a. Male
    b. Female

5. Highest level or education:
    a. Associate degree
    b. Bachelor's Degree
    c. Master's Degree
    d. Doctorate
    e. Other: specify_____

6. Level of experience with HF patients: Which of the following describes the frequency with which you work with individuals diagnosed with HF?
    a. Daily
    b. Weekly

c. Monthly
d. Unsure

7. Do you mostly see individuals diagnosed with heart failure as a _____?
    a. Primary diagnosis
    b. Secondary diagnosis

Appendix C

Heart to Heart Educational In-service

Pre/Post-Survey for Spring of 2019 Participants

Public Knowledge (Multiple Choice Questions)

1. Heart Failure occurs when _____.
    a. Cardiac enzymes are elevated
    b. The electrical signals throughout the heart weaken or diminish
    c. There is functional and/or structural impairment of ventricular filling or ejection of blood occurs
    d. The muscles of the heart die or weaken

2. Which of the following diseases has the highest cost of healthcare in the United States?
    a. Cancer
    b. Diabetes
    c. Heart Failure
    d. Stroke

3. Which of the following is the most common type of heart failure?
    a. Diastolic heart failure
    b. Systolic heart failure
    c. Congestive heart failure
    d. Myocardial infarction

4. Individuals with which of the following diseases are least likely to experience heart failure?
    a. Diabetes
    b. High blood pressure
    c. Coronary artery disease
    d. COPD

5. According to the American Heart Association, which of the following are effective stress management techniques for persons with heart failure?
    a. Positive self-talk and emergency stress stoppers
    b. Limit the amount of work and organize
    c. Plan ahead and use appropriate techniques
    d. Eat plenty of fruits and vegetables and stay hydrated

6. Heart Failure is diagnosed based on all of the following except
    a. Ejection Fracture
    b. Symptoms
    c. Imaging
    d. Inability to perform daily living tasks

7. A factor which does not impact effective management of Heart failure is_____?
    a. Pharmacological means
    b. Diet
    c. Exercise
    d. Management of caregiver burden

8. The maximum suggested sodium intake for individuals with heart failure is _____ mg per day.
    a. Less than 1,000
    b. 1,000 to 2,000
    c. 2,000 to 3,000
    d. 3,000 to 4,000

9. Gaining ___ pounds in a week is indicative of needing to change diet due to a heart failure exacerbation.
    a. One
    b. Two
    c. Three
    d. Four

10. What is the recommended physical activity/exercise regimen for individuals with heart failure?
    a. 40 min/day
    b. 60 min/day
    c. 90 min/day
    d. 50 min/day

11. All of the following are ways to increase social support for individuals with heart failure except _____?
    a. Providing consistent and regular communication with the individual
    b. Encouraging them to get involved in group activities and social networking
    c. Assisting and encouraging the individual to meet personal goals and achievements
    d. Providing education on importance of social support and allow for the individual to reach out for communication

12. A factor that does not influence maintaining independence with activities of daily living (ADLs) and instrumental activities of daily living (IADLs) is _____?

a. Incorporation of energy conservation and work simplification techniques
b. Asking for assistance from caregiver to perform ADLs/IADLs
c. Use adaptive equipment as needed to perform ADLs/IADLs
d. Modify task and/or environment to promote independence with ADLs/IADLs

13. Occupational therapists have the ability to improve occupational performance for individuals with heart failure by _____?
    a. Assisting individuals to become aware of one's body and their limitations while focusing on meaningful activities
    b. Encouraging individuals to return to their previous routine with modifications to medication regimen
    c. Provide education on various energy conservation techniques to be used with ADL's and IADL's
    d. Assist in appropriate diet modification decisions to improve nutritional health

14. Through community intervention, OTs have the ability to increase _____ for individuals with heart failure?
    a. Disease progression
    b. Self-management
    c. Control of exacerbations
    d. Treatment options

15. Increased social and emotional supports for individuals with heart failure have the ability to _____?
    a. Increase mortality and morbidity
    b. Decrease coping mechanisms for management of the disease process
    c. Alleviate depression and provide proactive stance towards disease management
    d. Provide education on when to apply for disability

16. Individuals with heart failure, who have a stable support system, are more likely to do all of the following except _____?
    a. Resume normal activities
    b. Be more accepting of their disease
    c. Apply education and disease management techniques
    d. Become dependent on caregiver to complete daily tasks

17. Interprofessional education allows for _____ when providing care to individuals with heart failure.
    a. Improved patient education for disease management
    b. Promoting knowledge of roles and responsibilities related to establishing common goals
    c. Decreased patient satisfaction
    d. Decreased carryover during intervention

18. When establishing a community support group for individuals with heart failure, occupational therapy's role is best described as _____?
    a. Providing education and tools for individuals to successful manage their disease through constructive socialization
    b. Providing medical treatment to affective manage their disease process
    c. Establishing a plan of care for medication regimen adherence
    d. Providing social support
19. Multidisciplinary team management of individuals with heart failure can do all of the following except _____?
    a. Improve communication for person-centered care
    b. Provide a bridge of care between primary and secondary care
    c. Provide a bridge of care between primary and tertiary care
    d. Minimize worries of persons receiving care for their disease

20. When providing care to individuals with heart failure, a goal for health care professionals, based on interprofessional education, is _____?
    a. To evaluate the effectiveness of treatment regiments
    b. To provide education on caregiver burden and the disease
    c. To provide resources for coping mechanisms for chronic diseases
    d. To evaluate the influence the disease has on their lives and their ability to cope with the disease

Appendix D

Heart to Heart Educational In-service

Post-Survey for Spring of 2019 Participants

Session Information and Satisfaction

1. On a scale of 1-4, how helpful did you find the handout given to you today?

(1= Not Helpful, 2=Minimally Helpful, 3=Moderately Helpful,4=Very Helpful)

1 2 3 4

2. On a scale of 1-4, how helpful did you find the information presented to you today?

1 2 3 4

3. On a scale of 1-4, how helpful was the education provided for increasing your knowledge on OT's role in practice for individuals with heart failure?

1 2 3 4

4. On a scale of 1-4, how helpful was the education provided for increasing your knowledge on OT's role in leading community support groups?

1 2 3 4

5. On a scale of 1-4, how would you rate the presenter's knowledge of the topic?
   1 2 3 4

6. On a scale of 1-4, how helpful did you feel the information presented to you today was in increasing your ability to provide care for individuals with heart failure?
   1 2 3 4

7. On a scale of 1-4, how pertinent was the knowledge related to clinical practice?
   1 2 3 4

8. On a scale of 1-4, based on the education provided how likely are you to incorporate information into your daily practice?

   1 2 3 4