THE EFFECT OF SELF-CARE BEHAVIORS ON REHOSPITALIZATION RATE AMONG PATIENTS WITH CONGESTIVE HEART FAILURE IN JORDAN GUIDED BY OREM'S SELF-CARE THEORY

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DEDICATION

To my parent……

To my wife……

To my sweetheart my love son

To my brothers,

To my sisters

To my friends (Ra`ed Zaghlool) (Sami Alarsan)

I dedicate this work

The researcher

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First of all, I thank God for giving me the strength to achieve this work; As well I would like to extend my sincere and deep appreciation to my committee members Dr. Abdullah Algunmeeyn, Dr. Wafeeqa Al-Thaher, and Dr. Emad Al-Foumy, Dr. Zainab Alwahesh for their support, Raed Alzaghloul and Sami Alarsan. I also, express my thanks to all my family, my friends, whose support and cooperation made this project successful.

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ABSTRACT

THE EFFECT OF SELF-CARE BEHAVIORS ON REHOSPITALIZATION RATE AMONG PATIENTS WITH CONGESTIVE HEART FAILURE IN JORDAN GUIDED BY OREM'S SELF-CARE THEORY

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Heart Failure is considered one of the most worldwide diseases with high readmission rate, cost, and morbidity and mortality rates. One of the best ways to prevent the negative consequences of this disease is by performing the healthy self-care behaviors. This study is aimed to investigate the effectiveness of a self-care education program based on Orem's theory on the quality of life among patients with heart failure in Jordan. True experimental method was used in this study. An experimental design was used to assess the effect of a health educational self-care behaviors based on Orem's Theory of self-care of patients with heart failure. Data were collected from 120 admitted patients with congestive heart failure from King Abdullah University Hospital by using demographical/clinical data sheet and the Arabic version of The European Heart Failure Self-Care Behaviors Scale (EHFSCB scale). The patients were distributed into two groups; a control group (n=60) and an experimental group (n=60). The results of the study showed that there were significant statistical differences at significance level ($\alpha \leq 0.05$) between the mean scores of the control group and the experimental group in the post-assessment of the participants' self-care behaviors, which was referred to the significant positive effect of the educational intervention-based on Orem's self-care theory. These results highlighted the need for ongoing training for self-care behavior to both nurses and patients with congestive heart failure. The implications of this study for practice, education, administration and research might lead to positive outcomes not only for patient and their families but also for all society.

Keywords: Heart Failure, Orem's Theory, Intervention, Education, Jordan.

Chapter One: Introduction

1.1 Background of the study

congestive heart failure is the last stage of heart disease, which occurs when the heart muscle cannot pump enough blood to meet the needs of the body (Huang et al, 2016). congestive heart failure is a “complex clinical syndrome that can be caused by any structural or functional heart disease that impairs ventricular congestion or bleeding capacity”, and congestive heart failure is a clinical syndrome rather than a disease (Dharmarajan, 2017).

HF a common disease in elderly population, is an age-related disease due to a series of changes in the body (Dharmarajan, 2017). With the growth of the global population and the aging of the population, the incidence and prevalence of congestive heart failure have increased significantly (Dharmarajan, 2017). Therefore, congestive heart failure has become the most common reason for hospitalization of the elderly, and the social burden of congestive heart failure become increasingly heavy (Dharmarajan, 2017; Moser, 2017)

It was found that the causes of admission and complications in most patients with congestive heart failure can be avoided, but this depends on various factors such as overweight lack of adherence in prescribed medications, lack to follow up with the nurses and doctors, smoking and drinking alcohol (Inamdar, 2016) There is also increasing evidence that improving self-care in patients with congestive heart failure is important to prevent congestive heart failure related outcomes and improve health-related quality of life (Sedlar et al., 2017).

The Self-Care Deficit Theory of Nursing is based on three interrelated theories:

(1) the theory of self-care, (2) the self-care deficit theory, and (3) the theory of nursing systems, which all form a framework for nursing, in this study the focus was on the Self-Care Deficit Theory which developed by Dorothea Orem as a result of working toward of improving the quality of nursing in public sector hospitals, The Self-Care Deficit Theory states that All people have the capacity to develop their intellectual and practical skills, along with the basic drivers of self-care. Orem believes that individuals can develop themselves for self-care (Parker, 2005). The Self-Care Theory has its main component requisites of self-care, which are, universal, development, and health deviation requisites (Alligood, 2006).

However, self-care is very important in the long-term care and disease control of chronic diseases such as congestive heart failure (Jaarsma et al., 2017). Self-care is needed by everyone, when the patient's self-care ability is lower than self-care needs, nurses should give timely support (Tomey, 2006). Nurses need to consider various factors, affecting the elderly with congestive heart failure when providing support, and formulate effective self-care measures to improve self-care effect (Zavertnik, 2014).

Self-care is important for patients with congestive heart failure (Jaarsma et al., 2017). Nurses need to learn how to promote patients' self-care skills (Sedlar et al., 2017). Understanding of factors related to self-care for patients with congestive heart failure is of great practical of guiding both patients and nurses, which the first step to identify patient characteristics and take these characteristics as the goal of health education to improve self-care (Sedlar et al., 2017). It’s necessary for nurses to provide evidence-based care and nurse-patient cooperation to help patient’s better implement self-care, and most importantly to enable patients to conduct complex self-care in daily life (Jaarsma et al., 2017).

Therefore, the patients must have the ability to face this disease and its consequences. Self-care behaviors are considering one of the main method that decrease congestive heart failure complications and increase patient adaptation to this disease.

In this study health deviation requisite which Present in ill person or injured, who have specific forms of pathologic conditions or disorders" (SteveRowlinson, 2015) are needed by patients who have heart failure. In order to meet these requisites, patients or self-care agent" as defined by Orem; must has the power and ability to engage in a course of actions and decide what to do, and how to perform care measures to meet self-care requisites (Orem , 2001). Some of these actions and care measures were recommended by many authors, that must be followed by patients with heart failure, such as eating less sodium (salt) each day, weighing every day at the same time, recording weight on a daily log, checking and recording blood pressure and pulse rate each day, balance physical activity with rest monitoring congestive heart failure symptoms each day, taking all the medications that are prescribed by congestive heart failure care team stop smoking, avoid alcohol and trying to lower known stresses (Ov, September 2020).

Based on Orem Self-care Theory it was suggested that enhancing self-care behaviors among patients with congestive heart failure will improve their quality of life, this study will focus on assessment of patient self-care and its relation toward decreasing Seem re-hospitalization rate in congestive heart failure patients, because few studies have been conducted about this topic in Jordan.

1.2 Statement of Problem

Heart failure is a serious health problem, not only for patients and their families but also for society. Self-care behaviors are considered the most effective treatment among

patients with congestive heart failure (Jaarsma, 2017). It includes a set of activities and actions that are recommended for patients to help them live with the disease without negative impacts on their health or life. Despite the presence of advance treatment for heart failure, researches indicate that general self-care behaviors of patients with congestive heart failure are still poor and as a result, poor self-care has been identified as a major contributor to the negative outcomes associated with this diagnosis (Arati A. Inamdar, 2016) Non-compliance to prescribed medication, low sodium diet, daily weighing, physical activity, fluid restriction and other lifestyle recommendations contributes to worsening congestive heart failure symptoms and leading to frequent hospitalization (Bryant, 2019).

Improving self-care behaviors has become the leading focus of congestive heart failure management programs. Health education and counseling are integral parts of these management programs (Bryant, 2019). Patients need to gain an understanding about their condition and reasons why these behaviors are essential in the prevention of poor outcomes. Educational topics cited by most guidelines include understanding the causes, signs and symptoms of congestive heart failure; diet, salt, and fluid restrictions; drug prescriptions; physical activities and lifestyle changes such as daily weights and stress reduction (Bryant, 2019).

There are many factors that affect the performance of self-care behaviors among patients with congestive heart failure that can positively or negatively affect the lives, health and well-being of individuals (Tiny Jaarsma, 2017), these factors include; age, gender, marital status, income, education level, comorbidities, severity of symptoms and living arrangement. The effect of the sociodemographic factors on self-care behaviors among patients with congestive heart failure was examined by many researchers which considered

them to be important in predicting good or poor self-care behaviors (Izabella Uchmanowicz, 2017).

in Jordan, heart failure is considered a serious disease since a 99,000 patients were estimated to have heart failure and the mortality rate of heart failure is more than 8% out of 38% of the mortality rate of the total cardiovascular diseases which are considered the leading cause of death (Statistics, 2003), It was found that some people in Jordan continue to lead sedentary lifestyle, unhealthy nutritional habits, low rates of screening practices, low physical activity levels and smoking (Ministry of Health, 2017). In 2017, a survey was conducted among adult Jordanians 18 years older found the prevalence of hypertension to be 26%, the impaired fasting glucose 24% (50% increase since 2015) and hypercholesterolemia 34%, overweight was 66%, thirty-two percent of Jordanians are physically inactive almost 29% of the Jordanians smoke cigarettes regularly (50% males, 6% females). The carbohydrate share of the dietary energy supply was decreasing and this decrease was accompanied by an increase in the share of energy supply from fat. It was found that only a small percentage of Jordanian adults participated in health-promoting behaviors (Ammouri, 2018). Controlling these modifiable cardiac risk factors could be achieved through improving the healthy self-care behaviors among Jordanian cardiac patients. Therefore, Jordanian people need to pay more attention to health-prompting behaviors for either healthy people or cardiovascular patients in general and for patients with heart failure in specific.

1.3 Significance of the Study

Heart failure is a major public health concern for all communities. It's a chronic condition that is increasing in incidence and prevalence worldwide (Lund, 2017) Therefore, this study not only significant for patients or their families but also for nursing science.

(Fonarow, 2016) Despite advances in treatment, studies found that approximately 50% of patients with heart failure are re-hospitalized within 3-6 months after their discharge from hospitals. (Luthi, 2014). Furthermore, the mortality rate of patients with heart failure remains high (Emily C.Gathright, 2017). Heart failure is associated with high morbidity and is the most common cause for hospitalization among patients over 65 years of age (Chih M.WongMBChB, 2017) heart failure is the most single costly cardiovascular illness, much of the medical care money are spent on care of patients with heart failure than on any other diseases (American Heart Association, 2017; (Lund, 2017). The total estimated direct and indirect costs for heart failure in 2015 were approximately $27.9 billion and the estimated total cost of heart failure care in 2017 was about $33 billion and most of this cost was for hospitalizations (American Heart Association, 2017). Therefore, this problem is significant for health care agencies and for all governments because of its financial and social (Samia Toukhsati, 2015) impact. It has been shown that patients with heart failure who adhere to a self-management treatment plan are able to avoid frequent hospitalizations and other negative consequences; many researchers found that up to 50% of heart failure admissions are preventable through performing correct self-care behaviors.

This study is significant for nursing practice because nurses in their practice play an important role in educating patients with heart failure the appropriate self-care behaviors (Albert, 2017). Education and counseling are essential aspects in improving self-care behaviors. It's important for nurses who work in medical and critical care units to have the right knowledge and skills to help patients with heart failure how to perform the healthy behaviors, also they can design health education programs for patients and their families to guide them at home for dealing with this disease which can prevent complications or

symptoms exacerbation and thus decreasing their readmissions to hospital. Studies have shown that comprehensive education of patient and family about self-care behaviors can decrease the readmission rate. (Albert, 2017). Also, it is important for nurses as educators to teach nursing students through medical and critical courses these self-care behaviors in order to increase the level of health education not only for patients and their health care providers but also may expand to people whom at high risk in their local communities. Improve the quality of nurses information and skills can reflect positively on the performance of self-care behaviors among patients with heart failure, and thus preventing the negative consequences of this health problem (Albert, 2017)

It is significant for health care agencies and administrators to develop a specific program or a comprehensive care plan to enhance performing self-care behaviors and to be assured that patients gain a basic knowledge of heart failure self-behavior skills before they are discharged from the hospital. Therefore, it is important to train their medical and nursing staff how to deal with those patients. It was found that disease-management programs can reduce the frequency of hospitalization, decrease costs and can improve quality of life and functional status for patients with heart failure (Bryant & Himawan, 2019).

Also, this study is significant for research, because few studies were conducted; either in the Middle East or in Jordan; to study self-care behaviors among patients with congestive heart failure. So, the current study will contribute effectively in supporting evidence based practice by offering a base line information and statistics for other studies that may conducted in future in our region. This study also was useful for health care providers, decision makers and researchers to have a knowledge if Jordanian patients with heart failure have good or poor self-care behaviors and if these patients need more health education, counseling or

governmental support. Moreover, comparison with others such studies in different cultures can be made, because Jordan culture has some characteristics that differs from western culture; most of Jordanian people are Muslim, have a strong social support, educated and have good and available health care services.

1.4 Purposes of the Study

The main purpose of this study was to investigate the effectiveness of a self-care education program based on Orem's theory on the quality of life among patients with congestive heart failure in Jordan.

1.5 Research Hypothesis

H0: Heart failure patients who receive educational intervention based on Orem's Theory will not show increased knowledge of the concepts and skills of self-care behaviors compared to the control group.

H1: Heart failure patients who receive educational intervention based on Orem's Theory will not show increased knowledge of the concepts and skills of self-care behaviors compared to the control group

Conceptual definition:

Orem through her self-care deficit theory of nursing (SCDNT) defined self-care that it's the activities which performed by individuals to maintain life, health full functioning, continuing personal development and wellbeing (Orem, 2001). According to Orem's conceptual framework as shown in figure below, there were a relationship between self-care, self-care agency and self-care demands (Orem, 2001).

In this study the self-care agent did the CHF patients to meet their self-care demands follow the patient, who must have the power and ability to perform alone the self-care behaviors, which included the actions and steps that should. "Some of these actions include; adhering to medication regimen, changing their diet and fluid intake, adapting their activities, and monitoring symptoms of worsening heart failure. Positive consequences were expected and as of result that, quality of life was improved that result in health status among patients and therefore, will decrease the number of visits to hospitals, which we called, is in this study the re-hospitalization rate.

Variable name	type	conceptual definition	operational definition
Educational program based on Orem's theory	Independent variable	A set of learning materials that are presented through organized sessions to achieve specific educational objectives. These activities were designed based on Orem's self-care theory.	A group of educational activities that were designed based on the concepts and components of Orem's self-care theory and provided for heart failure patients in the outpatient clinics in KAUH, Jordan.
Self-care behaviors	dependent variable	Self-care activities were defined as the activities undertaken by an individual to maintain a balanced physical and/or mental health status.	operationally, self-care activities were defined as the activities performed by the heart failure patients in order to maintain a balanced healthy status. These activities included weighting, medication adherence, and other self-care activities. These activities were assessed using the European Heart Failure Self-care Behaviors scale which developed by Jaarsma et al (2017)

1.6 Conceptual Framework

Orem's Self-Care Theory has been utilized as a conceptual framework for this study. Three interrelated theories form the pillars which the science of nursing is based and form the framework for it, the Self-Care Deficit Theory is one of them which proposed by Dorothea Orem (Parker, 2005) The theory assume that all human beings have the potential to develop their intellectual and practical skills, besides the essential motivation for self-care (Parker, 2005) Orem believes that individuals can develop themselves for self-care that involve the activities which performed by individuals to maintain life, health full functioning, continuing personal development and well-being (Orem, 2001).

Orem Self-Care Theory proposed three main component requisites of self-care, universal, development, and health deviation requisites. The summation of care strategies that needed to meet all of these requisites is described by Orem as the therapeutic self-care demand. Patient with heart failure need specific health deviation demands such as medical management and self-care management to prevent the progress of disease. Patient or " self-care agency" as defined by Orem; should has the power and ability to engage in a course of actions and decide what to do, and how to perform care measures to meet these self-care requisites. Nursing agency is needed as a helping method to prevent self-care deficit (Orem, 2001; Parker, 2005) (see figure 1).

If self-care agency is able to meet their self-care requisites especially health deviation or heart failure requirement, self-care behaviors was performed such as adhering to prescribed medication, changing diet and fluid intake, physical activity, monitoring body weight and symptoms of heart failure, therefore positive outcomes was the result. But if self-care agency is unable to meet their self-care requisites for any reasons, self-care

deficit and negative outcomes was the result as increasing readmission rate. In this case they need for others or dependent self-care agency; as named by Orem; to assist them in performing healthy self-care behaviors. One of the helping method is through health education and counseling. The dependent care agency could be the nurse, physician, family members or others.

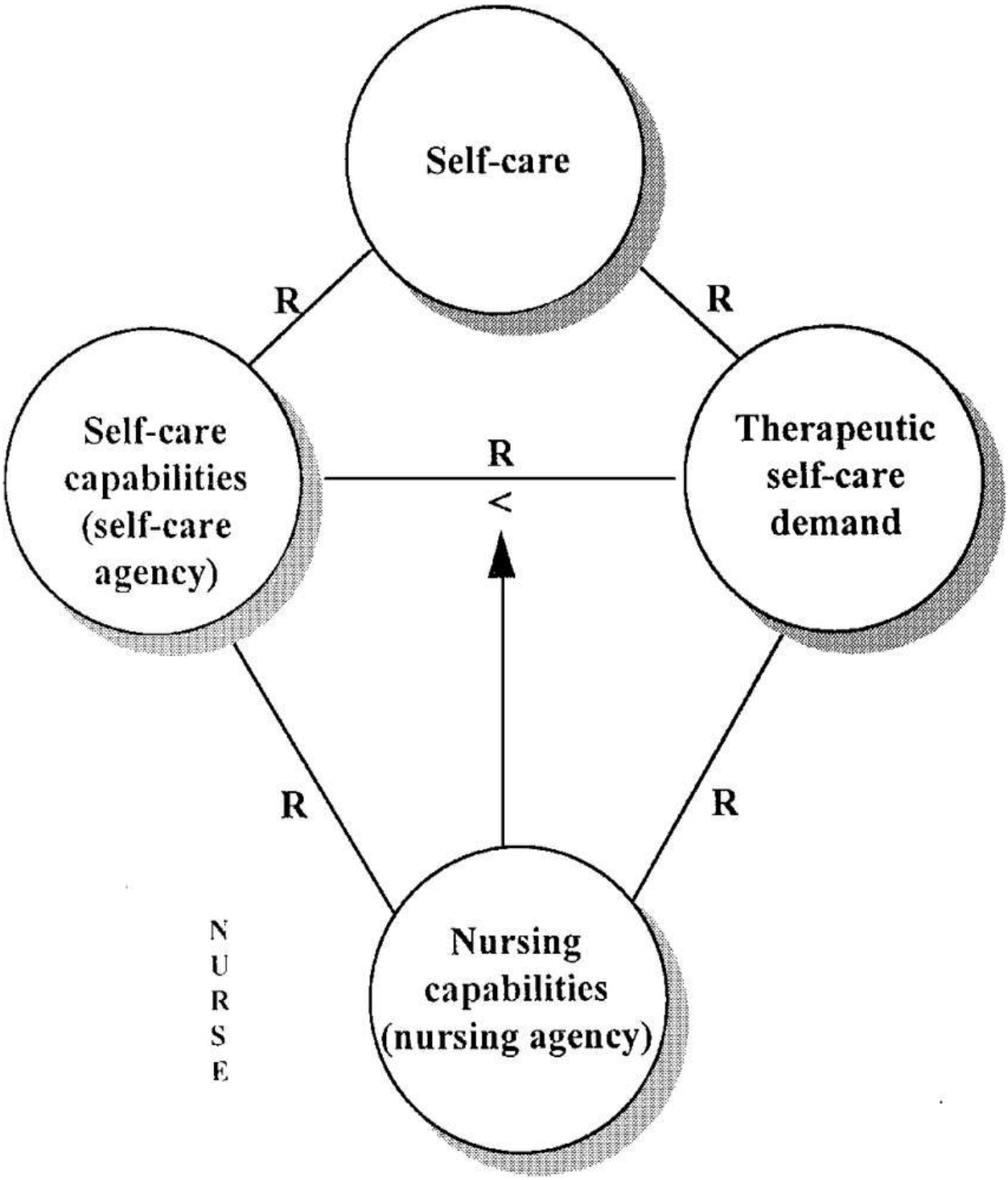


Figure 1 Orem's conceptual framework (Source: (Orem, 1980))

Orem state that engagement in self-care may be influenced by internal or external factors that affect abilities of patient or (self-care agency) to engage in self-care or affect the kind and amount of required self-care; these are known as Basic Conditioning Factors (BCFs). According to Orem's theory, these BCFs can positively or negatively affect the lives, health, and well-being of individuals (Artinian, 2002; Jaarsma, 2003; Orem, 2001) The BCFs relevant to this study included age, gender, marital status, income, education status, comorbidities, severity of symptoms and living arrangement.

1.7 Definition of Terms

Heart failure

Conceptual definition: is a complex clinical syndrome that can result from any structural or functional cardiac disorder that impairs the ability of the ventricle to fill with or eject blood (Boon, 2014). Operational definition: documented in patients records as heart failure diagnosis or had echo report with ejection fraction less than 45%. (American Heart Association, 2015; Boon, 2014).

Self-care behaviors:

Conceptual definition: The activities which performed by individuals to maintain life, health full functioning, continuing personal development and well-being. (Orem, 2001) These behaviors includes, (a) restriction of fluid intake, (b) restriction of dietary sodium intake, (c) daily weight monitoring, (d) regular use of medications, and (e) seeking assistance when symptoms worsen. (Jaarsma, 2003, Jaarsma et al., 2000). Operational definition: It was measured by the European Heart Failure Self-care Behaviors scale which developed by Jaarsma et al (2017) (Jaarsma, 2003).

1.8 Summary

This chapter presented background of the study in which it presents the prevalence and the incidence of congestive heart failure in world and in Jordan. Statement of the problem clarify self-care behaviors as one of the best non pharmacological treatment of heart failure. Further, the significant of the study to nursing, education, administration and research were explained. This study is aimed to describe the effect of self-care behaviors on re-hospitalization rate among patients with congestive heart failure in Jordan. Finally, the conceptual framework of Orem self-care was discussed and terms were defined. The following chapter will review the literature related to this study.

Chapter Two: Review of the Literature

The main purpose of this study was to investigate the effectiveness of a self-care education program based on Orem's theory on the quality of life among patients with congestive heart failure in Jordan. This chapter discusses the literature review of the previous studies related to the study variables.

The literature review was divided into three sections. The first section discussed congestive heart failure and self-care behaviors; the second section about self-care behaviors and basic conditioning factors; and the third section was about patient education.

2.1 Search Strategy

The literature review was performed for articles related to the effectiveness of educational programs on improving self-care behaviors among heart failure patients. The period between 2015 - 2021 was adopted using the following electronic databases, MEDLINE with Full Text, EBSCO, and PubMed, Google Scholar. In addition, secondary references were explored for any research-based evidence about the effectiveness of educational programs on improving self-care behaviors among heart failure patients. Finally, the websites of International organizations that have been accredited such as the World Health Organization (WHO) and American Heart Association (AHA) for the heart failure self-care behaviors related guidelines and recommendations. The following keywords were used: self-care behaviors (Alternatives word such as Self-Care activities, self-care practices), Heart failure, educational program, nursing education and nurse-led education. Inclusion criteria: Full-text articles published in English the time period between 2015 and 2021 that discussed an addressing study-related problem and outcome in the adult population of heart

failure patients. A number of old references that were published before 2015 were used in this study in case they were found to include valuable information that enrich the present study.

2.2 Heart failure and Self-care Behaviors

Heart failure is a chronic disease with high readmission rate, cost, and morbidity and mortality rates (Heo, 2008; Van der Wal, 2006). Self-care behaviors are considered one of the best ways to prevent the negative consequences of this disease. Many studies considered performing self-care behaviors the best non pharmacological strategies for patients with heart failure (Jaarsma et al., 2017) (Clarkson et al 2017) (Clarke 2020). Orem define self-care as the human regulatory function that is performed by individuals to maintain well-being health and development which depends on gathering of self-care, self-care demand, and self-care agency to determine the action requirements and action limitation of persons who benefit from nursing (Parker, 2005; Orem, 2001).

Jaarsma et al (2017) defined heart failure self-care behaviors as the behaviors that patients undertake to care for themselves to promote health and wellbeing, it includes behaviors such as adherence to medication, diet, exercise, seeking assistance when symptoms occur and weighing daily. Carlson (2001) defined self-care behaviors of heart failure as the recognition of a change in signs or symptoms, evaluation of the change, implementation of self-care treatment strategy, and evaluation of the effectiveness of the treatment implemented. Despite the presence of advance treatment for heart failure, many researchers found that the general self-care behavior among patients with heart failure is still poor (Jaarsma et al., 2017) (Clarkson et al 2017) (Clarke 2020).

Self-care includes both maintenance and management activities. the first category is Self-care maintenance which refers to healthy lifestyle options such as a session of vigorous physical exercise or training., quit of smoking, and treatment compliance behaviors such as symptoms and weight monitoring, recommended diet, and taking medications as prescribed and at time.

The second category is Self-care management activities involves cognitive processes and actions that include awareness the symptoms of deterioration congestive heart failure and implementing self-care strategies such as reducing the amount of salt consumed or increasing diuretics after being consulted by a doctor. Self-care management is concerned about patient decision making regard symptom recognition, symptom evaluation, symptom treatment, and treatment evaluation. The goal of self-care management is to respond to symptoms of heart failure before complications and hospitalization occur (Jaarsma et al., 2017).

(Soraya Siabani, 2013 Jul 16) were conducted to study the different aspects of self-care behaviors among patients with heart failure; frequency of performing these behaviors, adherence and knowledge level, self-care abilities, difficulties, facilitators and barriers to heart failure self-care; are some examples of these aspects.

(Nauman, 1999) a sample of 113 congestive heart failure patients with congestive was subjected to study on order to evaluate the recognize level of and to self-care adherence among them. the sample was made up of a large proportion of men (73.5%), and larger proportion of white patients (86.7%), and the married patients formed (64.6%) of the sample and (85%) educated 12 years or more, conducted the experiments to measure the Knowledge by questionnaire of 16 yes/no questions; whereas they measured the self-care by 8 items that

focused on the degree of adherence to self-care recommendations, they discovered that most patients (74%) committed in taking their medications completely as prescribed, and 25% followed the prescription instructions precisely most of the time, (38%) informed that they do not eat salty foods, and more than half (58%) believed that daily monitoring of weight is important, Findings showed a significant correlation between Adherence to self-care with adherence to self-care scores, but at weak adherence of self-care behavior score there is an association with being unmarried, and a lack of knowledge about self-care, and no prior admission to the hospital.

Artinian (2002) conducted a correlational study to examine the frequency of the performance of self-care behaviors among patients with heart failure, also examined the influential effects of internal and external factors on inhibiting or promoting the performance of heart failure self-care. This study was guided by Orem's theory of self-care. One hundred ten participants were conveniently selected from a teaching hospital and cardiology clinic of a Veterans` Affairs medical center where the majority of the participants were African American and men. The 12-item Revised Congestive heart failure Self-Care Behavior Scale was used to measures self-care behaviors. The results showed that the most frequently performed self-care behaviors were related to taking prescribed medications and keeping doctor appointments. While the least frequently performed self-care behaviors concerned with symptom monitoring or symptom management like daily body weight check, fluid control, and contacting a healthcare provider when experiencing the following congestive heart failure symptoms: weight gain, nausea, and fatigue.

Van der Wal (2006) studied non-compliance in patients with congestive heart failure that contributes to worsening heart failure symptoms and might lead to hospitalization. Data

were collected in a cohort of 501 patients with heart failure. They completed questionnaires on compliance, beliefs, knowledge, and self-care behaviors. Overall compliance to self-care behaviors was 72%. Compliance with medication and appointment keeping was high (90%). Compliance with diet was 83%, and was 73% for fluid restriction (In contrast, physical activity (39%), and weighing (35%) were markedly low.

Moser (2015) conducted a study to describe the prevalence of multiple risk factors for readmission to hospital among 202 patients recently discharged from a hospitalization as a result of heart failure. Most patients were severely functionally impaired (70%New York Heart Association (NYHA) functional class III/IV). About 28% of patients lived alone. It was found that adherence with recommended self-care strategies was poor: 14% weighed themselves daily, 9% of patients reported monitoring for symptoms of worsening heart failure, 31% could not name any symptom, 13% adhere to sodium diet and only 34% of patients took all medications as prescribed. A total of 23% of patients had all of the following risk factors: NYHA functional class III or IV, lived alone, ≥1 comorbidities, and were depressed or anxious.

Evangelista (2013) conducted a study to describe and compare the compliance behaviors of elderly patients (more than 65 years) and younger patients (less than 65 years) with heart failure on 6 prescribed activities: medications, medical appointments, diet, exercise, smoking cessation, and alcohol drinking. Data were collected from a sample of 140 patients with heart failure, older (70 patients) and younger (70 patients) matched for gender and disease severity with the heart failure Compliance Questionnaire. It was found that elderly patients were more compliant with diet (77% $p = .001$) than young patients (65%), and exercise (67% $p = .021$) than younger patients (55%). There was no difference in the

other health care behaviors. It was found that 51% of elderly patients reported some degree of difficulty complying with exercise while 37%, 24%, and 23% had difficulty following diet, keeping follow-up appointments, and taking medications respectively. Only 9% of elderly patients smoked and 18% drank alcohol. According to these results elderly patients seemed to be more complaint to self-care behaviors than the younger patients.

Kinugawa (2017) conducted a study to evaluate adherence, identify associated factors, and clarify the impact of previous heart failure hospitalizations on adherence in patients with heart failure. A sample of 116 patients who were making scheduled visits to the cardiovascular outpatient clinic of the university hospital in Tokyo between July 2016 and November 2016 were enrolled in the study. The Japanese version of the European Congestive heart failure Self-Care Behavior Scale (EHFScBS) was used to assess adherence to self-care behaviors, cutting point was 24, this mean that if the total score of EHFScBS was 24 or less indicated good self-care behaviors. Validity and reliability of the EHFScBS have been tested and confirmed (Cronbach's alpha was 0.71). The results showed that the total score of the EHFScBS was 32.6 which indicated that the Japanese patients with heart failure have poor self-care behaviors. Despite that the percentage of good adherence to prescribed medication was high (98.3%), about 50% and less was the percentage of other behaviors such as; weight monitoring, getting flu vaccine, symptoms monitoring, physical activity, diet and fluid restriction.

Lupon (2017) conducted their study to estimate the impact of nurse education intervention after medium-term period, on self-care progress of patient. they used the European Congestive heart failure Self-care Behavior Scale (EHFScBS) to estimate the self-care level of a sample consist of 111 men and 40 women, totally of 151 Spanish patients were

prospective studied with mean age 65.411.9 years old. During the first visit of the unit all patients were subjected to e valuate by (EHFSCBs) and after 12 months of educational intervention for the nurse, they also were subjected to the second estimate by using (EHFSCBs) too.

It was found that the total score of EHFScBS at first evaluation was 24.8 which indicated that the Spain patients with heart failure have good self-care behaviors. Taking the prescribed medication got the highest percentage (95%); seventy-five percent of patients monitored their symptoms; sixty-seven percent did physical activity; fifty-seven got flu vaccine every year and 55% followed diet and fluid restriction, while weight monitoring got the lowest percentage of adherence (24%).

Pettibone (2019) conducted a thesis to examine knowledge and adherence to self-care behaviors among American patients with heart failure. Orem's Self-Care Model was used as a framework for this study. A nonexperimental correlational design was conducted in metropolitan teaching hospital. Data were collected from 30 participants using 2 self-administered questionnaires, the Dutch Congestive heart failure Knowledge Scale and the European Congestive heart failure Self-Care Behavior Scale (EHFScBS). The results demonstrated general poor self-care behaviors and low level of knowledge among American patients. Taking medications as prescribed was reported to be the most performed self-care behavior. The behaviors that were reported to be performed the least amount included daily weights and contacting their healthcare provider when symptoms worsen.

According to the literature, despite that few studies reported that low percentage of patients took medication as prescribed (Moser, 2017). The majority of studies considered taking the prescribed medication one of the most frequent self-care behavior as reported by

patients with heart failure (Lupon, 2017). In contrast, symptom monitoring activities (Pettibone, 2019). and weight monitoring (Moser, 2015; Lupon, 2017; Pettibone, 2019). have the lowest reported levels of adherence.

In addition, it is important to identify the abilities, the barriers and the difficulties to perform self-care behaviors among patients with heart failure (Carson, 2017). used, cross-sectional, comparative study to describe heart failure self-care abilities and the difficulties that patients experience when practicing self-care and to compare self-care abilities among patients who were experienced with heart failure with those patients who are newly diagnosed. The Self-Management of Congestive heart failure questionnaire and Specific Activity Survey was used in a sample of 139 patients with heart failure who were recruited from 6 hospitals in Southern California and Ohio. It was found that few patients were comfortable evaluating the effectiveness of their self-care actions and more than half patients had low self confidence in their ability to perform self-care. In addition, the investigators found that most patients did not participate in a regular physical activity and nearly all patients followed at least one of four commonly recommended dietary guidelines such as a low sodium diet, a low-fat diet, a low-cholesterol diet or diabetic diet. It was also found that most of the patients experienced difficulties in recognizing the symptoms related to heart failure such as sudden weight gain, ankle swelling, difficulty breathing while sleeping, or fatigue. Patients newly diagnosed with heart failure had significantly more difficulty recognizing their symptoms than experienced heart failure patients because experienced patients were more likely to use appropriate self-care treatment than newly diagnosed patients.

Moreover, (Reigel, 2017). and (Carson, 2017). researched the facilitators and barriers to congestive heart failure self-care, a qualitative data was obtained from 26 individuals with heart failure; data were gathered using structural interview. They found that the barriers to self-care included; difficulties coping with treatment, physical limitation, lack of knowledge/misconceptions, multiple comorbidities, distressed emotions and personal struggles. In addition, the patients reported using several method of caring for themselves: watching their diet, resting and exercising, and complying with the medical regimen. However, the investigators found that many of these patients were unable to judge the importance of their symptoms, misinterpreted them, or did not believe that self-care behaviors could relieve them.

According to the findings of the last two studies; low level of self-care ability and the number of difficulties and barriers that patients faced; we can identify the directions for patient education that can be provided and therefore enhance their ability to perform self-care behaviors.

2.2 Reflection on the previous studies

Despite the variation in the previous studies addressing the topic of self-care behaviors among HF patients, there was a lack of theory-based studies that investigate the effectiveness of an educational program based on Orem's theory on self-care behaviors among HF patients. A number of studies adopted the review process to address this topic, such as Jaarsma et al (2017) and Carlson (2001) who provided theoretical definitions of HF. In addition, other studies investigated the frequency of performing self-care behaviors among the HF patients, such as Artinian (2002), whereas Van der Wal (2006) and Evangelista (2013), and Kinugawa (2017), focused on adherence issue. Moreover, Lupon (2017) sparked

the topic and studied the effectiveness of nurse-led education on self-care behaviors among Heart Failure patients. However, this was a sing study that focused on medium-term period.

As mentioned previously, despite the variation of the studies, no specialized studies adopted the quasi-experimental approach to assess the effectiveness of an educational program, but they adopted the cross-sectional and correlational research approaches to assess the adherence, knowledge and frequency of self-care behaviors.

The previous studies were beneficial in formulating the present study's research problem, research questions and building the theoretical framework of the study.

2.3 Self-care Behaviors and Basic Conditioning Factors

Orem stated that engagement in self-care may be influenced by internal or external factors that affect abilities of patient or (self-care agency) to engage in self-care or affect the kind and amount of required self-care; these are known as Basic Conditioning Factors (BCFs). According to Orem's theory, these BCFs can positively or negatively affect the lives, health, and well-being of individuals. (Parker, 2005; Orem, 2001) The BCFs relevant to this study included age, gender, marital status, income, education status, comorbidities, severity of symptoms and living arrangement.

Many studies were conducted to examine the effect of these factors as predictors for good or poor self-care behaviors (Rockwell, 2001) conducted a nonexperimental correlational study to investigate the predictors of self-care in patients with heart failure. Symptom severity, comorbidity, social support, education, age, socioeconomic status, and gender were the selected predictors. The study took place in 6 hospitals in southern California that included 209 patients diagnosed with heart failure. Self-care was measured using items from the Self-Management of heart failure scale. Comorbidity was measured by using the

self-report version of the Charlson Index. Symptom severity was measured with the Specific Activity Scale (SAS) in addition to demographical information. The results showed that only 2 of the variables were significant predictors of self-care: education level (P = .009) and symptom severity (P=.046). Better educated persons may be more likely to engage in self-care than those who are poorly educated. The patients with more severe symptoms had higher self-care scores.

Chriss (2004) replicated the previous study to determine predictors of self-care in heart failure. in their study they retrial a non-experimental, correlational replication study by model of seven variables, which they are symptom severity, gender, education, comorbidity, social support, age, and income, but income variable was excluded in this study because of missing data. At three months after discharge all variables were measured at baseline of the research sample which consist of 66 congestive heart failure patients with heart failure selected from 2 hospitals, the maintenance subscale of the Self-Care of Congestive heart failure Index was used to measure self-care maintenance of the sample. The findings displayed the important predictors of self-care were increased age and male gender at baseline, but after three months, when baseline self-care maintenance scores were controlled in the analysis, the model showed that most successful at congestive heart failure self-care was the elderly men and those with fewer comorbid diseases. Which differ with the results of previous research of Rockwell (2001).

Holzapfel et al (2009) investigated self-care behaviors among German patients with CHF with different degrees of depression severity. A total of 287 patients with documented CHF completed the European Heart Failure Self-Care Behavior Scale. It was found that age (P = .001), comorbidity (P = .01), left ventricular ejection fraction (P = .001), and family

status (P = .01) were the most predictors of self-care behaviors. This means that good self-care behaviors are associated with older patients, presence of comorbidities and presence of social support.

Cameron (2009) carried a study to examine a conceptual model of determinants of congestive heart failure self-care, which consist of self-care confidence, gender, social isolation, age and comorbid illnesses, Self-Care of Heart Failure Index. was utilized to estimate sample of hospitalized congestive heart failure patients, to test the model and to identify significant individual determinants of self-care maintenance and management the researcher of this study used Multiple regression. The results showed that the key and important determinants of self-care maintenance was older age and moderate-to-severe comorbidity. on the other side the important predictors of self-care management were moderate-to-severe comorbidity, men, greater self-care and presence of depressive symptoms.

Kinugawa (2017) carried out a research to assess commitment, identify correlated factors, and states the effect of previous congestive heart failure hospitalizations among patients with heart failure, the results showed that adherence to self-care behavior was affected negatively by diabetes mellitus and being employed.

Pierce (2005) presented a study on a sample of 45 older congestive heart failure rural women to predict the impact of socioecological factors such as perceived health status, social support, barriers to health promotion behaviors (HPB), and demographic variables on the (HPB) of rural women with heart failure. She utilized correlational design with the study sample. The results showed that there is a negative association between health promotion behaviors and severity of symptom.

Artinian et al (2002) studied the factors that influence the performance of self-care behaviors among patients with heart failure. The investigators examined the influential effects of internal and external factors on inhibiting or promoting the performance of heart failure self-care. They found that there were no significant relationships between the total self-care behavior score and any of the Basic Conditioning Factors (BCFs); however, a number of significant relationships between BCFs and individual self-care behaviors were observed such as that younger patients were less likely to talk to a physician when worrying about symptoms worsening or nausea; the older patients were more consistent in keeping physician's appointments and meet the requirements of the therapeutic system. The behavior of self-care varies considerably by gender, more men than women reported having received the flu vaccine once a year.

As reported in some studies, no significant correlation was found between age and self-care behaviors, (Artinian et al., 2002; Kinugawa, 2017; Gonzalez, 2006) while in other studies it was correlated significantly, especially being older patient was a predictor of better self-care. (Chriss, 2004; Holzapfel, 2009; Cameron, 2009) Despite that few studies found that male more than female regard performing self-care behaviors (Chriss, 2004; Holzapfel, 2009; Romero, 2003), the most of other studies found no significant gender difference among heart failure patients (Heo S, 2008) (Artinian, 2002; Gonzalez, 2006; Lee, 2009; Holst, 2007). Many studies found a positive correlation between self-care behaviors and social support which include, being married, living with someone and family support. (Sayers, 2008; Holzapfel, 2009) The available evidence demonstrates that social isolation and lack of social support are associated with increased risk of re-hospitalization and death. (Bennett, 2001; Richardson, 2003; Luttik, 2005)

Low income as found in literature contribute to poor self-care behaviors. (Macabasco-O'Connell, 2008; Van der Wal, 2008). Macabasco-O'Connell (2008) conducted a study to describe self-care behaviors in indigent patients with Heart Failure, they found that patients with low socioeconomic status and indigent heart failure patients face unique challenges that contribute to poor self-care behaviors. Furthermore, the literature reveals that higher education level is associated with better self-care behaviors, because educated patients with heart failure have more knowledge about the self-care behaviors that must performed than less educated patients (Van der Wal, 2006; Rockwell, 2001; Evangelista, 2001)

Most patients with heart failure have comorbid conditions that complicate their treatment plan and affect their ability to engage in effective self-care (Sturm, 2006) It was found that close to 40% of persons with heart failure had 5 or more noncardiac comorbid conditions. Chronic obstructive pulmonary disease, renal failure, diabetes, depression, and other lower respiratory diseases such as asthma are the most non cardiac comorbidities. While ischemic heart disease, atrial fibrillation, and high blood pressure were common cardiac comorbidities and considered common in the older patients with heart failure (Parker, 2005; De Geest, 2004; Robert, 2013)

Braunstein et al (2017) examined 122,630 patients suffering from congestive heart failure and their ages their ages are 65 and above, and found that 14% have 0-1 comorbidity, while58% have 2–5, 19% have 6-8, and 7% have more than 9 comorbid illnesses. The study explored that the most common comorbidities were essential hypertension (55%), diabetes mellitus (31%), chronic obstructive pulmonary disease (COPD) at percentage of (26%).

Furthermore, Lien et al. (2017) found that roughly one third of the older patients (N=116, mean age 86) hospitalized with congestive heart failure also suffering from several

diseases such as: musculoskeletal problem, hypertension, schemic heart disease (IHD), mental impairment, incontinence. Cerebral vascular accidents, requiring analgesia, and diabetes, and chronic anemia, were diagnosed in (10-26%) of these patients. Renal failure and arthritis have also been discovered to be important comorbidities for patients with heart failure. A Spanish study mentioned the percentage of congestive heart failure patient's comorbidities as following: Hypertension (57%), IHD (57%), Diabetes (37%), anemia (27%), and renal impairment (4%) (Lupon, 2005)

(Antonello Cocchieri, April 2015)found that patients with heart failure who had fewer comorbidities had better success with self-care than did those with more comorbidities, while other studies proved the inverse self-care among patients with heart failure.

Moreover, it was found that severity of symptoms influenced health outcomes such as quality of life, hospitalization and mortality. Many studies consider severity of symptoms a good predictor for self-care behaviors, because those who were more symptomatic and functionally impaired were more knowledgeable about the symptoms requiring self-care in patients with heart failure (Riegel, 2000; Riegel, 2002; Rockwell, 2001) While another study found that there was a negative association between severity of symptom and performing self-care behaviors (Pierce, 2005).

Readmission rate is considered high among patients with heart failure. Poor self-care behaviors, inappropriate use of drugs, poor follow-up controls after discharge or delays in seeking care has been implicated as common causes of re-hospitalization (Artinian, 2002; Jaarsma, 1999)

Clarason et al 2017, Clarke 2020 and Luthi, 2014 found that approximately 50% of patients with congestive heart failure are re-hospitalized within 3-6 months of discharge of a hospitalization and up to 50% of these admissions are preventable through performing related heart failure self-care behaviors. In United States, heart failure is the primary discharge diagnosis for more than one million hospitalizations annually (American Heart Association, 2015; Hunt, 2001) The rate of heart failure hospitalizations, particularly in developed countries with aging populations has increased progressively over the past decades (Artinian, 2002; Jaarsma, 1999; Fang, 2008) making it the most common condition for hospital admission in elderly patients, followed by pneumonia, cerebrovascular disease, cancer, and coronary atherosclerosis (Kozak, 2006) As well as heart failure is considered the most costly cardiovascular illness. Admissions to hospital account for the largest part of health costs related to heart failure because hospital stays are usually lengthy and frequently. (American Heart Association, 2015; Hunt, 2001; Lupon, 2005)

One way to prevent frequent hospitalizations, decrease cost and improve quality of life is by performing self-care behaviors, but there are many factors that can affect these behaviors and therefore increase the readmission rate. (Hamner 2005) conducted a research study to test the relationship between patients with congestive heart failure variables and re-admission average. The examination included several variables such as race, sex, comorbidities, ejection fraction, age, living situation, and medication. 557 patients have been tested in the study, (40%) among of them were readmitted within six months. The results showed that the age of the patient, medications, co-morbidities, financial status and patients with congestive heart failure experience had a positive effect on increasing the rate of re-admission.

On contrast, (Schwarz 2003) discovered that the patients with congestive heart failure who live alone have lower re-admission rates, 21% of the patients that re-admission suffering from inadequate social support (living alone). Gustafsson (2009) explored that the age, diabetes, severity of symptoms and hospitalization prior to referral to the heart failure clinic, are indicator to hospitalization or death.

Another study did a retrospective analysis of hospital records to identify factors associated with the readmission of elderly patients with heart failure. It was found that three major factors correlated most often to hospital readmission including medication supply, dietary non-adherence, and poor general health behaviors, such as smoking, substance abuse, and non-adherence to the treatment regimen (Hap, 1997).

Since congestive heart failure disease is responsible for a tremendous number of mortality, hospitalization and disability, clinicians and researchers around the world strive to find out an optimal approach to educate and help patients with congestive heart failure in order to engage in self-care, so (Jaarsma 2013) carried out a study and analysis included 22 samples totaling 5964 patients with heart failure, Those who differ in cultural, demographic, familial and social characteristics from five countries across three continents to describe self-care behaviors of congestive heart failure patients. in this study statistics and SPSS statistical software platform was used to analysis the collected data which were obtained from the original field researchers using Self-care of Heart Failure Index or the European Heart Failure Self-care Behavior Scale.

(Jaarsma et al., 2017) This international study of congestive heart failure self-care behaviors discovered that there is a noteworthy poor adherence to most self-care behaviors regardless of culture or country, and therefore the self-care behaviors with congestive heart

failure patients are sub-optimal in worldwide and the patients require to cope with a lifelong regimen, The study was concluded that there is an urgent need a specific effective approach to support patients and improve the quality of education to increase self-care behavior of congestive heart failure patients.

(Ali-Navidian 2017) sought in their research to determine the impact of education based on motivational interviewing on self-care behaviors in congestive heart failure patients with depression, in this research experiments were carried out on sample consist of 82 patients suffering from congestive heart failure disease whose depression had been assured, and all of them admitted to cardiac units in the hospital, this sample randomly distributed into two groups intervention group and control group, intervention group received education based on motivational interviewing, and the second group received education based on conventional training.

During the last four days of hospital patient's stay the researchers started their tests on the both groups, the intervention group received four individualized sessions of self-care behavior education based on the principles of motivational interviewing, and at eight weeks after discharge, the test (SCHFIV6.2) was administered as a post-test procedure to the patients either at home or at heart clinic during a visit appointed, on the other side the control group received conventional training on self-care behaviors individually, in short sessions over four days, using an educational booklet; they also received the post-test questionnaire after the same eight-week post.

The gathered data were processed by several tools whereby the Self-Care Heart Failure Index was utilized to evaluate self-care behavior, and also data were analyzed using (IBM SPSS), paired (t-test), independent (t-tests), (Chi-square) test and the analysis of

covariance (ANCOVA). the results showed that a significantly increasing in the average overall scores and the scores on the three sub-scales of self-care behavior (maintenance, management, and confidence) after motivational interviewing approach of the congestive heart failure patients with depression compared to the average increasing in the scores after conventional self-care, given these result the researchers of this study deduced that the motivational interviewing approach is a promising approach identify the optimal patient-centered approaches in order to enhance self-care behavior in congestive heart failure patients approach to enhance self-care behaviors, so the researchers of this research recommended to use the motivational interviewing for education in depressed congestive heart failure patients due to the effectiveness of this approach and for its significant positive effect on self-care behaviors in patients with congestive heart failure and depression.

(Hwang et al 2020) conducted experiments on effects of educational intervention patient-reported outcomes among congestive heart failure patients who live in rural and low population density areas and to examine whether effects differed between patients with and without depression. A sample of 614 patients were selected to conducting the test regarding to specific conditions, data was collected by questionnaires, the patients were randomized into one of three groups, the usual care group (control) or one of two intervention groups (Fluid Watchers LITE) group [LITE]or (Fluid Watchers PLUS) group [PLUS]. Intervention groups were received face-to-face education, then the physicians and research assistants making follow-up by phone calls with their patients of intervention groups, followed by either 2 phone calls (LITE) or two weeks calls until they demonstrated content competency (PLUS). And that was repeated at third, twelfth and twenty fourth months statistical.

Baseline characteristics of patients in the three study groups were compared using analysis of variance (ANOVA), Kruskal-Wallis tests, chi-square tests, or Fisher's exact test; they examined the long-term effects of an educational intervention program, designed for rural patients with congestive heart failure by using patient-reported outcome measures.

Both intervention groups showed improvement in congestive heart failure knowledge and better self-care at three months, Improvement lasted twenty-four months only in the Fluid Watchers (PLUS) group, compared to those in the usual care group (control), but, long-term (up to twenty-four months) effects were noted only in those who received the intervention with additional telephone contacts and congestive heart failure knowledge, self-care behaviors, and health-related quality of life during the twenty four month study period.

The study exhibited that there were no variants in Health-Related Quality Of Life (HRQOL) among groups. In subgroup analyses, similar effects were found among nondepressed, but not among depressed patients, and also the study concluded that the method of simple educational intervention is promising to improve congestive heart failure knowledge and self-care, but for depressed patients a strategy planning is needed.

Due to the importance of following distinctive lifelong self-care behaviors and the difficulties of to understanding self-care behaviors in the context of congestive heart failure(Youn-Jung, 2018) carried out this study to explore how to develop self-care behaviors among patients with congestive heart failure which can help medical teams understand patient perspectives and promote effective patient engagement with self-care for a healthy transition to living well with heart failure, in addition to discover how congestive heart failure patients commit to self-care. In this study the researchers carried out the Focus Group Interviews (FGI) in order to explore views from patients with congestive heart failure who

attend a cardiology outpatient clinic, five groups totaling 25 participants were distributed randomly into five focus groups, each group contains from three to seven patients, these focus groups were interviewed and recorded, transcribed, and analyzed using a thematic analysis approach.

The researchers utilized Focus Group Interviews in this study to obtain a better understanding of how patients with congestive heart failure improve self-care behaviors during the recovery trip of their illness, one objective of this method (Focus Group Interviews) is to create data group interactions, which it is especially efficient in exploring the feelings, thoughts, and actions of the patients concerning their regimen of self-care.

This study revealed that the importance of patient's acceptance and understanding to their illness trajectory and living with congestive heart failure disease is significant to establish efficient self-care, and this study also stressed that the congestive heart failure patients must obtain a visualize, living with the heart failure, understand their disease and informational needs, to move forward with managing their disease and living well with it.

Due to tremendous health expenditure and the high costs of congestive heart failure patients (Bryant & Himawan, 2019) aimed to evaluate the hospitalizations and self-care behaviors of patients with congestive heart failure before and after congestive heart failure and directed their extensive efforts towards to decrease hospitalizations and self-care maintenance behaviors in patients with congestive heart failure by implementing Self-Care of Congestive heart failure programs, practitioner nurses run this program (self-care of congestive heart failure program) on patients.

The Heart Failure Self-Care to Success (HF S2S) were implemented on a sample of outpatients with heart failure, the intervention of (HF S2S) program was self-paced by patients, along with one-on-one interactions with nurse practitioners during clinic routine reviews.

Bryant & Himawan (2019) Program works on collecting data, which motivates the patients to symptom monitoring, this program keeps the patient in contact with the practitioner nurse in necessity case. the data collected were reviewed by the nurse practitioner with each patient and individualized dependent on the participant's knowledge. After conducting experiments and tests on the sample using the (HF S2S) program the findings evidenced a positive influence on hospitalization rates and self-care behaviors in patients with heart failure, and also proved that the patient-provider relationship may be a significant role in the improving and developing of self-care strategies in patients with heart failure.

Self-care and health education are the most common and most important component of interference to improve the behavior of patients with chronic heart failure, choosing an effective self-care approach is a key factor in stabilizing the patients' health and preventing deterioration of patients' health conditions of congestive heart failure patients.

Chen (2018) assessed if the motivational interviewing education approach improves patient self-care comparing to traditional education approach, this study aimed to investigate the effect of motivational interviewing on the self-care behavior in patients with chronic heart failure. For an entire year the study has been conducted on Sixty-two inpatients at the cardiology department in the hospital with chronic heart failure, the study sample divided into two groups, the intervention group which contained twenty-nine patients, and the control group which contained thirty-three patients. Patients in the intervention group received four

sessions of motivational interviewing whereas the patients in the control group received traditional health education. At second, fourth, and the eighth weeks' post-discharge from the hospital, the intervention group subjected telephone follow-up based on motivational interviewing, whereas another group (control) subjected routine telephone follow-up,

The searchers used several tools and programs to conduct their study such as SPSS 13.0 for Windows which was used to analyses data, self-care behaviors have been measured using the Chinese version of the Self-Care of Heart Failure Index (SCHFI), comparison general data between the two groups were performed using Chi square test, and finally (t-test) was used to compare the results between two groups. The results of this study showed that motivational interviewing can significantly improve the self-care behaviors of patients with chronic congestive heart failure disease compared with traditional health education.

Asadi (2019) conducted the study on a random sample of 77 admitted patients in cardiac ward in a hospital to explore how the self-care behaviors impacts on quality of life in patients with congestive heart failure disease and also, to find out how much the patient's health improving is when he follows self-care behaviors. This study is carried out using analytical method, data were collected by three questionnaires which completed by the patients using tools consist of demographic checklist, SF-36 quality of life questionnaire and the European Heart Failure Self-care Behavior Scale (EHFScBs) which measure self-care behavior of congestive heart failure patient, then the gathered data were entered into SPSS-24 software and analyzed by inferential statistics, the normality of the quantitative variables was screened by Kolmogorov-Smirnov, several tools were utilized for inferential statistics to conduct calculations and predictions (inferences) of the sample such as the independent (t-test), Mann Whitney, ANOVA, Spearman correlation, and Kruskal-Wallis .

The results of this study indicated there is no correlation between self-care and quality of life. However, the study unveiled that the level of self-care in participants was moderate and there was no relationship between demographic characteristics and self-care ability, except for unmarried patients who had the most desirable self-care behaviors. and the results also showed that the male patients, Self-employed persons, patients who resident in the urban areas, and those that have a university level education, had a better quality of life.

2.3 Education of Self-care behaviors for patients with congestive heart failure

Patient education and discharge planning are considered important strategies to decrease readmission rate and prevent other negative consequences of heart failure. Nurse play a significant role in educating patient with heart failure the appropriate self-care behaviors.

Nursing System Theory, one of three Orem's theories of self-care; consist of a series of actions that nurses take to meet a patient's self-care needs. Theory of nursing system subsumes the theory of self-care deficit and the theory of self-care in three nursing systems: Wholly Compensatory Nursing System in which nurses provides total care for patients; Partly Compensatory Nursing System, patients in this phase can meet some self-care requisites needs; and finally Supportive-educative Nursing System, patients can meet self-care requisites but needs help in decision-making, behavior control, or knowledge acquisition.

Education and counseling are a vital component of improving outcomes in patients with heart failure (Edwardson, 2007). Krumholz (2016) conducted a prospective, randomized trial

for patients with heart failure (n = 88) to study the effects of a formal education and support intervention on one-year readmission and mortality rates. The intervention focused on patient knowledge of the condition, medications, health behaviors, knowledge of early signs and symptoms of decompensation, and where and when to seek assistance. The finding revealed that the number of patients who were readmitted to the hospital or died was 22 patients (50%) in the intervention group and 35 patients (80%) in the control group.

Koelling (2017) conducted a study research with a randomly selected sample consist of 223 congestive heart failure patients. The sample divided into two groups; the intervention and control groups, the participants were randomly assigned into the two groups. The intervention group received standard written discharge education, at one month, at two months and at six months of post-discharge, a telephone follow-up was conducted, within the six month of follow-up the researcher of this study analyzed the collected data then they specified the number of days re-hospitalized or the mortality rate. The findings showed that the rate of re-admissions and deaths were notable decreased in the education group compared to the control group. They also explored that the education group was associated with a $2,823 per- patient savings over the six months' follow-up period.

A systematic review of self-care education by McAlister & Jovicic (2017) unveiled that heart failure-management programs and interventions that focus on enhancing patient self-care significantly lower the congestive heart failure hospitalization and also re-markedly lower all-cause re-hospitalization. Jaarsma et al (2007) assessed HF-specific self-care behaviors among patients with heart failure. The researchers utilized an experimental design to test the impact of nurse-provided education and support to the research sample which

includes 179 patients. The research result stated that there is a substantial raise at self-care behaviors among patients with congestive heart failure when the patients receive the education and support in the hospital than at home.

Whitton (2016) conducted a nursing master thesis to investigate the reasons that heart failure patients do not practice self-care behaviors. Content analysis that was guided by the Health Belief Model was used to analyze data from twenty patients through structural interviews process. She found that 60% of patients indicated they had been not taught self-care behaviors, while 40% said they had. Furthermore, when asked the patients who taught the self-care behaviors that they practiced, 62% said that physicians taught them, while 23% indicated that nurses taught them. These self-care behaviors that were practiced by patients included; 100% for prescribed medication, 85% following diet restriction, 38% for daily weighting.

Mutchler (2017) conducted a thesis study to evaluate the educational needs of persons with heart failure. She found that 54.5% of patients had received congestive heart failure education. Cardiac specialists (40.9%) were reported as the persons providing education most frequently, followed by nurses (31.8%). Another study found that the majority (90%) of Syrian cardiac patients preferred receiving educational information from physicians, and about 10% from nurses (Orem, 2001) As well as, Kennelly (2015) found that the most cardiac patients still preferred the physicians to educate them and make their final treatment decisions.

A large difference between receiving and retaining information may be appeared. Nauman (1999) assessed the knowledge level of and adherence to self-care among

113 patients with heart failure. It was found that despite 71% participants reported receiving educational materials about heart failure, and 75% participants reported receiving verbal advice about heart failure self-care from their health care providers, 40% of those who were surveyed reported having little or no knowledge about heart failure. These results identified a need for ongoing education, and improved strategies to help persons with heart failure retain the information being provided.

2.4 Heart failure Self-care Program Effect on Outcomes

The number of patients with heart failure in the US is increasing, and so is the costs associated with it that are attributed to such factors as hospitalization, loss of productivity and transitional care which can be avoided by self-care. Research indicate that knowledge, skills, experience and values are factors that need to be focused on by a self-care program for heart failure patients. This study aimed at using a congestive heart failure program based on self-care strategies as pretest and posttest to assess hospitalization rate and care behaviors of congestive heart failure patients. A pre-post interventional design was used. The Self-care to Success program used clinical practice guidelines and the implementation guide to direct the implementation process. Participants (n=40) were congestive heart failure patients selected from three congestive heart failure clinics managed by three outpatient nurses during regular clinic visits.

The program included providing weight scales and a 12-month calendar for patients to record weight, medication regimen assess level of certain symptoms, congestive heart failure knowledge, and management strategies with toolkit guide explaining implementation in detail. Data collection included written consent, democratic data, and completion of self-care of congestive heart failure index. Face to face interviews were held with each of the

participants by nurses to review the calendar record taking into account knowledge, experience and current congestive heart failure status of the patients. Follow-up visit was planned within three months. Each visit lasts for 15-20 minutes. During these visit, patients completed another self-care of heart failure index and continued to use the calendar for 6 months. Data collected by participant's self-report and review off their medical record. Participants also completed self-care of heart failure index that includes 22-items and measures 3 domains of heart failure self- care: maintenance, management and confidence. Data were analyzed using paired t test to find out any significant differences in the hospitalization rates before and after treatment, and whether there was any significant difference between hospitalization rates and significant self-care behavior scores. Participants were mostly female, around age 65, with higher level of education, the majority received support from family or friends, and lived with a spouse as living arrangement. A paired t test showed decrease in the number of congestive heart failure hospitalization before and after the intervention. Analysis showed no significant difference between the self-care maintenance and hospitalization rates pre and posts the intervention. Results demonstrated that the self-care program had an effect on the hospitalization rates of heart failure patients, which is consistent with the current literature. Consistent with other studies, this study found improvement in the self-care maintenance scale after the intervention. To decrease heart failure hospitalizations and improve self-care behaviors, nurses need to apply the program used in the present study to improve heart failure outcomes with patients. The communication between heart failure patients and nurses with the use of the program can improve patient outcomes. The study recommends using this program in primary care setting. The program implemented had a positive impact on hospitalization rates and self-care behaviors in heart

failure patients. The patient-nurse relationship is an important factor in the development of self-care strategies in patients with congestive heart failure (Bryant & Himawan, 2019)

2.5 Summary

Heart failure is a serious health problem, not only for patients and their families but also for society, self-care behaviors is considered the most effective non pharmacological treatment among heart failure patients (Ammouri, 2018). Most of the literature revealed that self-care behaviors among patients with heart failure were poor, it also found that performing these behaviors contribute effectively in decreasing readmission rate, cost and mortality rates, factors that affect the performance of self-care behaviors were identified. In case of poor self-care behaviors or lack of knowledge regarding these behaviors, patient education and discharge planning is considered an important strategy to decrease readmission rate and prevent other negative consequences of heart failure.

Chapter three: Methodology

3.1 Study design

True experimental method was used in this study. An experimental design was used to assess the effect of a health educational self-care behaviors based on Orem's Theory of self-care of patients with heart failure, with one experimental group receiving Orem's self-care model and a control group receiving care as usual. The outcome measure was the effectiveness of Orem's model in improving self-care knowledge, attitudes, and practices among congestive heart failure patients.

3.1.1 Sociodemographic and clinical factors

Conceptual definition: The factors that affect individuals' abilities to engage in self-care or affect the kind and amount of self-care required. (Sherri L. LaVela, 2016) Sociodemographic data include the following personal factors; age, gender, income, educational status, marital status and whether patient live alone or with others. Clinical factors include; comorbidities and symptom Severity and readmissions to hospital.

Operational definition: It was measured by the sociodemographic and clinical data questionnaire, where comorbidities was measured by asking the patients about the number of other chronic diseases in addition to congestive heart failure (Sherri L. LaVela, 2016) or being documented in patients files. While severity of symptom is measured by using New York Heart Association's (NYHA) functional classification system for symptoms severity (American Heart Association, 2015). Number of readmission was measured by asking patients about the number of times that they had been admitted to the hospital as a result of the symptoms of congestive heart failure for the last 6 months.

3.2 Setting and participants

The study population shall be comprised of patients diagnosed to have congestive heart failure in King Abdullah Hospital. According to the King Abdullah Hospital report, 850 congestive heart failure patients in 2019 attend to cardiology clinic, who are 18 years old and above are seeking regular checkup in the said public health care facility. Only patients with stable condition was approached and given explanations about the study. They were selected through the following inclusion and exclusion criteria:

Inclusion criteria: patients who are:

1) Patient with congestive heart failure.
2) Jordanian National.

Exclusion criteria: patients who are:

1) Mentally challenged.
2) Not willing to participate.

3.3 Sampling

The researcher used the results of Mohammadpour (2015) and the following formula for calculating the sample size, (n) = 1+2C (SD/d)2. Accordingly, with a confidence level of 95% and a power of 80%, the sample size was determined to be 60 patients in each group. Was employed the simple random sampling technique (lottery method) to randomly assign the patients to either the control or the experimental groups.

Sample size (n) = 1+2C (SD/d)2

(n) = 1+2*7.85 (25/15)2

(n) = 1+53.3

(n) = 54.3+6 (considering 10% dropout)

Sample size (n) =60 for each group

Total of 120 participants

C = 7.85 (at 95% CI and 80% power)

C = connivance level, SD = standard deviation, D= main of population.

3.4 Instrumentation

Sociodemographic characteristics was gathered through individual interviews and medical data was extracted from King Abdullah Hospital medical records. The demographic questionnaire was consisted of questions regarding patients' age, gender, educational attainment, weight, family history of heart failure.

The European Heart Failure Self-Care Behaviors (EHFScB) Scale was used in the present study. It consists of 12 items rated on a 5-point Likert Scale that range from 1= completely agree to 5 = completely disagree, the total score was calculated by summing the ratings of each item and range from 12 to 60. Higher scores indicate poorer self-care behavior.

The original version of EHFSCB scale consisted of 20 items (Jaarsma, 1999) and was reduced to 12 items by (Jaarsma et al., 2017) and her colleagues concurrent validity was confirmed, patients with extra CONGESTIVE HEART FAILURE education to patients without such education were compared, the European Heart Failure Self-care Behavior Scale differentiate between these groups. Therefore, validity of the scale was confirmed. The

internal consistency of the scale was tested using pooled data of 442 patients from two centers in Sweden, three in the Netherlands and one in Italy. Cronbachs's alpha was 0.81 (Jaarsma, 2003)

From 14 instrument identified in the literature, only two instruments were found to be reliable and valid tools to measure heart failure self-care behaviors; the EHFScB scale was one of these two instruments (Cameron, 2009). Therefore, The EHFScBS is a valid and reliable scale that can measure self-reported self-care behaviors among patients with heart failure such as taking medication, daily weighing, fluid restriction, physical activity and symptoms monitoring, also it has the ability to differentiate between patients with and without additional education.

The EHFScBS was translated into 14 languages and this study add one more language by translating it to Arabic language. Permission from the author was obtained to use the instrument. Translated by a sworn legal translator (kan'an center) and by Dr. Mohammad Nezar Altamimi (Jordanian University of Science and Technology). The scale was modified for the current study, two columns were suggested to be added in the main instrument, the first column include a question whether the patients was taught about the behavior (yes/no question) and the second column include a question on if so, who taught patients on this behavior; participants selected from the following options; physician, nurse, relative and friend.

In order to understand the results of (EHFScB scale) and according to the literature, the items that related to the same behaviors were jointed together. For example, items 2,3,4,5 and 8 were the behaviors that related to symptoms monitoring activities. Item 7 and 12 were the behaviors that related to physical activity and items 6 and 9 were the behaviors related to

diet and fluid restriction (Kato, 2009; Tsuyuki, 2001; Holzapfel, 2009) According to (Kinugawa, 2017) the cutting point score for EHFScBS was 24, this mean that if the total score of EHFScBS was 24 or less indicated good self-care behaviors and if the total score of EHFScBS was more than 24 indicated poor self-care behaviors. This cutting points was used to discuss the results of current study.

A pilot study was conducted to evaluate feasibility and test the reliability of the Arabic version of EHFScBS. The questionnaire was distributed to 13 patients with heart failure in KAUH using a structural interview. The finding of pilot study indicated that the Arabic version of EHFScBS was reliable with Cronbachs's alpha of 0.88, and the scale was found easy to be administered and practical to use.

3.5 Study Intervention

Participants was randomized to the intervention group received health education based on of Orem's self-care theory, intervention aimed at improving self-care behaviors. The health care education session for (30) minutes in a comfortable place on the hospital facility A pre-post interventional design was used. The Self-care to Success program used clinical practice guidelines and the implementation guide to direct the implementation process (Bryant & Himawan, 2019). The program content in this study is available on pages (85 to 100) in this thesis.

Participants (n=120) were congestive heart failure patients selected from three congestive heart failure clinics managed by three outpatient nurses during regular clinic visits.

Data collection included written consent, democratic data, and completion of self-care of congestive heart failure index. Face to face interviews were held with each of the participants by nurses to review the calendar record taking into account knowledge, experience and current congestive heart failure status of the patients.

Also, a pre-post interventional design was used to measure outcomes following congestive heart failure self-care to success (HFS25) program in this self-care program for patient with congestive heart failure Bryant & Himawan (2019) used clinical practice guideline for program content (calendar and weight skills) and the situation- specific theory of congestive heart failure self-care to direct the implementation process (implementation guided). This self-care program has been piloted in a house call and outpatient cardiology practice reporting a decrease in congestive heart failure hospitalization and improved self-care behavior.

Guideline Executive Summary was explained to the participants and free photo copy was given for each of participants. the health education session was focus on the information such as the definition and symptoms of heart failure, medications, strategies to prevent the worsening of heart failure symptoms, and recommendations about dietary changes, exercise, and smoking cessation.

3.6 Ethical Consideration

The consideration in terms of ethical aspects is upheld for the participants of the study. For this study, the researcher follows the ethical guidelines developed by the National Institute of Health (NIH), which contain the following: Codes and regulations, respect for persons, beneficence, and justice. In order to protect the right of the participants in the

research study, after the proposal was reviewed and approved, it was presented to the Isra University Research Ethics Committee (REC) before the researcher will start the data gathering process. Moreover, the researcher will secure permission to conduct the study from the Director of the Hospital. Once approved, the researcher will inform the participants about the purpose and design of the study to establish rapport and trust and to gain their cooperation during the entire course of the data collection, consent form on page 115 at this thesis.

The participants were asked to share their personal experiences that may or may not cause them to feel uncomfortable, and if they want to terminate their participation in the study at any point during the interview, they are free to do so. If there are questions that they do not wish to answer, they may say so. The right to privacy was maintained throughout the study for all the participants. Participants was assured that all their data was kept confidential. To facilitate this, confidentiality procedures was followed in this study, so the data will not be linked to participants. Furthermore, the data was maintained in a secure environment for storage. For the qualitative part, data collection was carried on by doing interviews with participants who agreed to participate in the study.

The participants were assured of the confidentiality of all the information they will share with the researcher. To maintain the anonymity of the participants, their names will not be indicated; instead, the researcher will utilize pseudonyms. Participants was informed that this is voluntary, and they were given the opportunity to ask questions or clarifications about the study. The content of informed consent included the study purposes, participants signed a consent form procedure, type of data, risks, and benefits of the study, confidentiality pledge (Denise & Beck, 2014). Respect for cultural, religious, and other forms of diversity among participants was maintained during the study.

3.7 Sociodemographic and Clinical Data Questionnaire

It includes personal and clinical information about participants. The personal information included; age, gender, income, educational status, marital status and living status (live alone or with others). All these variables were measured on a categorical type of data except for age which was a continuous variable. Clinical information included; comorbidities, number of hospital readmission and symptom severity. Comorbidities was measured by asking the participants if they had a chronic disease beside heart failure disease and what are these diseases. Number of hospital readmission was measured by asking the participants about the number of times that they had been admitted to the hospital as a result of heart failure symptoms for the last 6 months. Symptoms severity was measured by the New York Heart Association's (NYHA) functional classification system, which is based primarily on subjective assessment and it is most commonly used to quantify the degree of functional limitation imposed by heart failure. This system assigns patients to one of four functional classes, depending on the degree of effort needed to induce symptoms, in which Class I mean no limitation of physical activity and ordinary activity doesn't cause fatigue, dyspnea, palpitation, or anginal pain. Class II include slight limitation of physical activity, patient being comfortable at rest, but ordinary physical activity results in heart failure symptoms. While in class III there is marked limitation of physical activity, patient being comfortable at rest, but less than ordinary activity causes symptoms and finally class IV include severe limitation that symptoms of heart failure (including anginal pain) are present at rest and if any physical activity is undertaken, discomfort is increased. (Hunt, 2001; Bosen, 2003) All clinical variable were measured on a categorical type of data except for number of readmission which was a continuous variable.

3.8 Data Collection Procedure

Before conducting the study, approval from Institutional Review Board (IRB) committee at Isra University for the protection of human subjects and approval from King Abdullah university hospital (KAUH) were granted (pages 116-118 at this thesis).

Nursing directors and in-charge nurses at both hospitals were contacted and were informed about the purposes of the study and data collection procedure. Consent form was on the first page of each questionnaire, and included the name of the researcher, the purpose of this study. The consent form ensured that the participation in this study was voluntary, and that each participant has the right to withdraw from this study at any time and their care will not be affected. Additionally, the consent form ensured the anonymity procedure in data collection for this study. Patients were not asked to express or write their identifying data on the questionnaires, and the researcher told the participants that all information that was gathered was used only for the purpose of research where each patient was assigned a code and dealt with patients using that code.

A registered nurse was assigned to help the researcher in data collection at King Abdullah university hospital (KAUH) after training on the data collection procedure. As mentioned before, participants were randomly assigned to an experimental group (n=60) and control group (n=60) recruited from outpatient clinic. Participants were provided teaching using (H2S) model with permission from the author (Bryant & Himawan, 2019), and were asked to complete the calendar and record their weighs, heart failure symptoms, medication, physical activity, hospitalization rate and diet and fluid restriction measures. A questionnaire was applied as pretest and posttest and required 10-15 minutes to complete. Patients were asked to provide their addresses and regular follow-up visits at their homes were scheduled

three times a month for one hour. The follow-up visits continued for three months. Data collection took place in the patient room in the medical department and CCU and clinical patient unit in hospitals. Patients who met the inclusion criteria were asked to participate in this study. Questionnaires were given to patients who can comprehend and able to read and write, the researcher read the items in case patients were unable to read or write. All returned questionnaires were checked for completion and were entered to computer for analysis.

The samples were collected from the patients of the experimental group, where educational sessions were conducted for them according to the Bryant-style educational method, each the session takes 20 minutes, in the waiting hall at the King Abdullah University Hospital in front of the heart clinics in order to give them instructions, explanations and tips on everything related to congestive heart failure disease's symptoms and signs. The patients were divided into two groups, the first group received education on Sundays or Tuesdays, while the second group received education on Mondays or Wednesdays, according to the time of their routine visits to the clinic.

3.9 Statistical analysis.

The statistical package for the social science SPSS version 24 was used to analyze the data. statistics (mean, standard deviation, frequencies and percentages) was used to analyze all demographical characteristics of participants, describe self-care behaviors among patients with heart failure, identify the self-care behaviors that most taught to Jordanian patients with heart failure and persons who taught these behaviors.

Pearson correlation, t-test and ANCOVA test was used to describe the relationship between sociodemographic and clinical variables with self-care behaviors. All tests were analyzed at a significant level of alpha <.05.

3.10 Summary

The design of the present study was an experimental design. A simple random sample of 120 patients who had heart failure were completed the demographics form and the Arabic version of The European Heart Failure Self-Care Behaviors Scale (EHFScB scale). King Abdullah university hospital (KAUH) were the settings of this study. All participants were assured confidentiality and anonymity. inferential statistics was used to analyze the data and answer the research questions.

Chapter four: Results

4.1 Sample Characteristics

A total of 120 Heart Failure (HF) patients participated in the present study. The patients were distributed into two groups; a control group (n=60) and an experimental group (n=60). The results presented in table (1) represent the demographic and clinical characteristics of the study sample. The mean age of the participants in the control group was 53.08 years, whereas the mean age of the participants in the experimental group was 51.53 years (table 1)

Table 1 Description of the participants by age

	Control group (N=60)	*Experimental group (N=60)*
Age (M±SD)	3.53±0.37	2.31±0.41

Male participants constituted 55% (n=33) of the control group, whereas females were 45% (n=27). For the experimental groups, there was an equal representation of males and females (50% for each). (Table 2)

Table 2 Description of the participants by gender

	Control group (N=60)	*Experimental group (N=60)*
Gender (%)		
1 Female	27 (45%)	30 (50%)
2 Male	33 (55%)	30 (50%)

Distributing the study sample in both groups based on their marital status revealed that married patients were the most represented category in both groups, as they were 91.7% (n=55) in the control group and 95% (n=57) in the experimental group (Table 3)

Table 3 Description of the participants by marital status

	Control group (N=60)	*Experimental group (N=60)*
Marital Status		
1 Single	1 (1.7%)	0 (0%)
2 Married	55 (91.7%)	57 (95%)
3 Divorced	0 (0%)	1 (1.7%)
4 Widowed	4 (6.7%)	2 (3.3%)

In addition, the results indicated that HF patients living in the city were representing 73.3% (n=44) of the control group and 70% (n=42) of the experimental group (Table 4)

Table 4 Description of the participants by living place

	Control group (N=60)	*Experimental group (N=60)*
Living Place		
1 City	44 (73.3%)	42 (70%)
2 Village	16 (26.7%)	34 (28.3%)

The majority of the HF patients in both groups (control and experimental) were living with other people, as the results revealed that 95% (n=57) of the control group were living with others, while 88.3% (n=53) of the experimental group were living with others (Table 5).

Table 5 Description of the participants by living status

	Control group (N=60)	*Experimental group (N=60)*
With whom do you live		
1 Alone	3 (5%)	7 (11.7%)
2 With others	57 (95%)	53 (88.3%)

About 70% (n=42) of the control group HF patients were holding secondary education. On the other hand, 66.7% (n=40) of the experimental group HF patients were holding the secondary education certificate. In addition, there was 30% (n=18) of the control group members had a bachelor degree or higher, whereas they constituted 26.7% (n=16) of the experimental group HF patients (Table 6).

Table 6 Description of the participants by educational qualification

	Control group (N=60)	*Experimental group (N=60)*
Educational qualification		
1 Primary	0 (0%)	4 (6.7%)
2 Secondary	42 (70%)	40 (66.7%)
3 Bachelor or higher	18 (30%)	16 (26.7%)

The results related the employment status of the study participants revealed that in the control group; 50% (n=30) had a job, 16.7% (n=10) had no job, and 33.3% (n=20) were retired. On the other hand, they constituted 65% (n=39), 11.7% (n=7), and 23.3% (n=14), respectively in the experimental group (Table 7)

Table 7 Description of the participants by job status

	Control group (N=60)	*Experimental group (N=60)*
Do you have a job?		
1 Yes	30 (50%)	39 (65%)
2 No	10 (16.7%)	7 (11.7%)
3 Retired	20 (33.3%)	14 (23.3%)

Moreover, the results showed that those who work in the governmental sector represented 35% (n=21) of the control group, whereas private sector employee were representing 15% (n=9). In the experimental group, those who had a governmental job represented 40% (n=24), whereas HF patients who were working in the private sector were representing 25% (n=15) (Table 8)

Table 8 Description of the participants by nature of work

	Control group (N=60)	*Experimental group (N=60)*
Nature of work		
1 Governmental	21 (35%)	24 (40%)
2 Private	9 (15%)	15 (25%)
3 NA	30 (50%)	21 (35%)

The majority of the study participants in both the control group and the experimental group (71.7%, n=43) were having a monthly income ranged between 300 and 500 JD. The least represented category was those who had less than 300 JD as a monthly income, as they constituted 5% (n=3) and 1.7% (n=1) in the control group and the experimental group, respectively (Table 9).

Table 9 Description of the participants by monthly income

	Control group (N=60)	*Experimental group (N=60)*
Monthly income		
1 Less than 300 JOD	3 (5%)	1 (1.7%)
2 300 – 500 JOD	43 (71.7%)	43 (71.7%)
3 More than 500 JOD	14 (23.3%)	16 (26.7%)

Investigating the presence of other chronic diseases among the study participants in both groups revealed that 75% (n=45) of the control group members had no other chronic diseases, whereas 76.6% (n=46) of the experimental group members reported that they had no other chronic diseases (Table 10).

Table 10 Description of the participants by presence of chronic diseases(s)

	Control group (N=60)	*Experimental group (N=60)*
Any other chronic diseases		
1 Yes	15 (25%)	14 (23.3%)
2 No	45 (75%)	46 (76.6%)

Diabetes Miletus (DM) was present among 8.3% (n=5) of the control group HF patients, and 5% (n=3) of the experimental group HF patients. In addition, Hypertension (HTN) was present among 16.7% (n=10) of the control group HF patients and 18.3% (n=11) of the experimental group HF patients (Table 11).

Table 11 Description of the participants by the type of the chronic disease

	Control group (N=60)	*Experimental group (N=60)*
Present chronic diseases		
1 DM	5 (8.3%)	3 (5%)
2 Hypertension	10 (16.7%)	11 (18.3%)
3 No chronic	45 (75%)	46 (76.7%)

During the last six months, 38.3% (n=23) of the HF patients in the control group reported that they were admitted to the hospital one time, while 30% (n=18) were admitted twice, 16.7% (n=10) were admitted three times, 11.7% (n=7) were admitted four times, and 3.3% (n=2) were admitted more than five times. For the experimental group, about 40% (n=24) reported that they were admitted to the hospital one time during the last six months,

while 33.3% (n=20) were admitted two times, 18.3% (n=11) were admitted three times, and 8.3% (n=5) were admitted four times (Table 12).

Table 12 Description of the participants by number of admissions during the last 6 months

		Control group (N=60)	*Experimental group (N=60)*
No. of admission during the last 3 months			
1	One	23 (38.3%)	24 (40%)
2	Two	18 (30%)	20 (33.3%)
3	Three	10 (16.7%)	11 (18.3%)
4	Four	7 (11.7%)	5 (8.3%)
5	Five or more	2 (3.3%)	0 (0%)

Most of the participants in both, the control group and the experimental group, reported that they had health insurance. They represented 98.3% (n=59) of the control group and 90% (n=54) (Table 13).

Table 13 Description of the participants by having health insurance

	Control group (N=60)	*Experimental group (N=60)*
Do you have a health insurance?		
1 Yes	59 (98.3%)	54 (90%)
2 No	1 (1.7%)	6 (10%)

The governmental health insurance was the most prevalent among the insured patients in both groups, as 96.7% (n=58) of the control group HF patients and 86.7% (n=52) of the experimental group HF patients were insured from governmental side (Table 14).

Table 14 Description of the participants by type of insurance

	Control group (N=60)	*Experimental group (N=60)*
Type of insurance		
1 Governmental	58 (96.7%)	52 (86.7%)
2 Private	2 (3.3%)	8 (13.3%)

Smoker HF patients represented 56.7% (n=34) of the control group HF patients, whereas they constituted 61.7% (n=37) of the experimental group HF patients (Table 15).

Table 15 Description of the participants by smoking status

		Control group (N=60)	*Experimental group (N=60)*
Smoking status			
1	Smoker	34 (56.7%)	37 (61.7%)
2	Non-smoker	26 (43.3%)	23 (38.3%)

With regard to the duration of the heart failure disease, about 66.7% (n=40) of the control group and the experimental group HF patients reported that they had HF for less than one year (Table 16).

Table 16 Description of the participants by duration of heart failure

		Control group (N=60)	*Experimental group (N=60)*
Duration of heart failure			
1	Less than 1 year	40 (66.7%)	40 (66.7%)
2	1-3 years	16 (26.7%)	17 (28.3%)
3	More than 3 years	4 (6.7%)	3 (5%)

The majority of the participants in both groups reported that they had no weighting balance at home. Those who had no weight balance represented 81.7% (n=49) of the control group, and 80% (n=48) of the experimental group (Table 17).

Table 17 Description of the participants by having a weight balance at home

	Control group (N=60)	*Experimental group (N=60)*
Having weight balance at home		
1 Yes	11 (18.3%)	12 (20%)
2 No	49 (81.7%)	48 (80%)

About 93.3% (n=56) of the HF patients in the control group reported that they have a close health center to their living area. In addition, 85% (n=51) of the experimental group reported that they had a close health center to their living area (Table 18).

Table 18 Description of the participants by presence of close healthcare center to living area

	Control group (N=60)	*Experimental group (N=60)*
Presence of close healthcare center to living area		
1 Yes	56 (93.3%)	51 (85%)
2 No	4 (6.7%)	9 (15%)

Sixty-six percent (n=40) of the study participants from the control group and the experimental group reported that there was no restriction in physical activity, and normal activity does not cause fatigue, shortness of breath, heart palpitations or chest pain. 26.7% (n=16) of the control group members and 28.3% (n=17) of the experimental group members reported that there was a marked restriction in physical activity and they were comfortable when resting, but the symptoms of heart failure result from less than normal physical activity.

Finally, 6.7% (n=4) of the HF patients in the control group and 5% (n=3) of the HF patients in the experimental group reported that their physical activity is severely restricted and symptoms of heart failure appear even at rest (Table 19).

Table 19 Description of the participants by severity of heart failure symptoms

		Control group (N=60)	*Experimental group (N=60)*
Severity of heart failure symptoms			
1	Class One	40 (66.7%)	40 (66.7%)
2	Class Two	16 (26.7%)	17 (28.3%)
3	Class Three	4 (6.7%)	3 (5%)

4.2 Items level descriptive statistics for self-care scale among heart failure patients for control group.

The results shown in table (20) represent the mean and standard deviation scores for the self-care behaviors of HF patients the educational interventional program based on Orem's theory. The results revealed that there The results indicated that the control group congestive HF patients were more adhered to weight themselves on a daily basis (M=3.43, SD=1.462) post test (M=3.78, SD=1.136), taking it easy if they get SOB (M=3.72, SD=1.345) post test (M=3.72, SD=1.342), contacting the doctor or a nurse if SOB increases (M=2.35, SD=1.338) post test (M=3.53, SD=1.109), contacting the doctor or the nurse if the leg/feet get more swollen (M=2.42, SD=1.357) post test (M=3.67, SD=1.203), contacting the doctor or the nurse if gaining weight (M=2.15, SD=1.300) post test (M=3.93, SD=1.177), limiting the amounts of fluid (M=2.43, SD=1.280) post test (M=3.83, SD=1.237), taking rest during the day (M=2.17, SD=1.368) post test (M=3.85, SD=1.191), contacting the doctor or

the nurse if getting fatigue (M=2.37, SD=1.262) post test (M=3.50, SD=1.151), eating a low salt diet (M=2.40, SD=1.532) post test (M=3.97, SD=1.119), taking medication as prescribed (M=2.07, SD=1.247) post test (M=3.70, SD=1.078), getting a flu shot every year (M=2.15, SD=1.363) post test (M=3.90, SD=1.217), and exercising regularly (M=2.45, SD=1.358) post test (M=3.43, SD=1.097).

Table 20 Means and Standard Deviations scores for the self-care behaviors in the Control Groups Intervention

	Pre test		Post test	
	Mean	SD	Mean	SD
I weigh myself every day	3.43	1.430	3.78	1.136
If I get SOB I take it easy	3.45	1.185	3.72	1.342
If SOB increases I contact my doctor or nurse	3.48	1.255	3.53	1.109
If leg/feet are more swollen, I contact doctor or nurse	3.50	1.384	3.67	1.203
If I gain weight I contact doctor or nurse	3.53	1.396	3.93	1.177
I limit the amount of fluids	3.53	1.255	3.83	1.237
I take a rest during the day	3.48	1.295	3.85	1.191
If I experience fatigue I contact doctor or nurse	3.43	1.226	3.50	1.151
I eat a low salt diet	3.62	1.209	3.97	1.119
I take my medication as prescribed	3.82	1.308	3.70	1.078
I get a flu shot every year	3.50	1.157	3.90	1.217
I exercise regularly	3.38	1.329	3.43	1.097
Total	3.51	.408	3.58	.349

4.3 Assessment of Self-care Behaviors among Heart Failure Patients after implementing the educational program

The results shown in table (21) represent the mean and standard deviation scores for the self-care behaviors of HF patients after implementing the educational interventional program based on Orem's theory.

The results indicated that the Experimental group HF patients were more adhered to weight themselves on a daily basis (M=3.60, SD=1.251) post (M=2.38 ,SD=1.462), taking it easy if they get SOB (M=3.38, SD=1.379), post (M=2.43 ,SD=1.345), contacting the doctor or a nurse if SOB increases (M=3.50, SD=1.479), post test (M=2.35, SD=1.338), contacting the doctor or the nurse if the leg/feet get more swollen (M=3.80, SD=1.260), post test (M=2.42 ,SD=1.357), contacting the doctor or the nurse if gaining weight (M=3.48, SD=1.214), post (M=2.15 ,SD=1.300), limiting the amounts of fluid (M=3.30, SD=1.369), post (M=2.43 ,SD=1.280), taking rest during the day (M=3.72, SD=1.367), post (M=2.17 ,SD=1.368), contacting the doctor or the nurse if getting fatigue (M=3.43, SD=1.240), post (M=2.37, SD=1.262), eating a low salt diet (M=3.67, SD=1.284), post (M=2.40 ,SD=1.532), taking medication as prescribed (M=3.75, SD=1.002), post (M=2.07, SD=1.247), getting a flu shot every year (M=3.37, SD=1.353), post (M=2.15 ,SD=1.363), and exercising regularly (M=3.33, SD=1.343), post (M=2.45, SD= 1.358).

Table 21 Means and Standard Deviations scores for the self-care behaviors in the Experimental group

	Pre-test Experimental		Post test Experimental	
	Mean	SD	Mean	SD
I weigh myself every day	3.60	1.251	2.38	1.462
If I get SOB I take it easy	3.38	1.379	2.43	1.345
If SOB increases I contact my doctor or nurse	3.50	1.479	2.35	1.338
If leg/feet are more swollen, I contact doctor or nurse	3.80	1.260	2.42	1.357
If I gain weight I contact doctor or nurse	3.48	1.214	2.15	1.300
I limit the amount of fluids	3.30	1.369	2.43	1.280
I take a rest during the day	3.72	1.367	2.17	1.368
If I experience fatigue I contact doctor or nurse	3.43	1.240	2.37	1.262
I eat a low salt diet	3.67	1.284	2.40	1.532
I take my medication as prescribed	3.75	1.002	2.07	1.247
I get a flu shot every year	3.37	1.353	2.15	1.363
I exercise regularly	3.33	1.434	2.45	1.358
Total	3.53	.373	2.31	.415

4.4 The effect of educational program on Self-care Behaviors among Heart Failure Patients

Table (22) shows there were an apparent decrement of the self-care deficit behavior between pretest and posttest for interventional and control group, to test if this difference is significant from the statistical stand point A one way ANCOVA was performed to show if there a statistical significant mean differences of self-care deficit behavior posttest score between

two groups after controlling of pretest as a covariate variable, After checking that the assumption of homogeneity of regression slopes was not violated (F=1.021 ,p=0.362) the results in table (22) reveled a statistical significant differences between groups were found (F=272.717 ,p<0.001 , η2 =0.661) implying that the experimental group significantly had lower of self-care behavior deficits mean (2.31±0.41) than control group (3.53±0.37),In addition the adjusted mean for experimental and control group were (2.326 vs 3.516) respectively. this indicate that the educational interventional program decreased self-care deficit behavior in the in the experimental group than control group , Also eta squared for effect size (η2=0.661) showed that 66.1% percent of variance in self-care behavior posttest score was explained by the groups and it was higher than (0.14) which specified by (Cohen's.,1988) implying that the educational interventional program guided by orem's self-care theory had a large effect on self-care behavior among patients with heart failure

Table 22 the results of ANCOVA between two groups on self-care deficit behavior posttest score

Groups	N	Mean±SD	Adjusted Mean	Sum of squares		F value	Sig	η2
Experimental	60	2.31±0.41	2.326	Between	35.582	227.717	0.000	0.661
Control	60	3.53±0.37	3.516	Total	53.864			

4.5 The effect of educational program on Self-care Behaviors among Heart Failure Patients on rehospitalization rate

The results presented in table (23) indicates the frequencies of rehospitalization among heart failure patients based on their group within the last 90 days. The chi-square statistic is 6.718. The *p*-value is .044326. The result is significant at $p < .05$.

4.5.1 Rehospitalization rate of the control group participants

Table 23 Chi-Square test results

	No of admission within 60 days	*No of admissions within 90 days*
Control group	43	56
Experimental group	21	12
Total	64	68

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.718[a]	1	.044		
Continuity Correction[b]	4.951	1	.026		
Likelihood Ratio	7.023	1	.008		
Fisher's Exact Test				.014	.012
Linear-by-Linear Association	6.494	1	.011		
N of Valid Cases	120				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.53.

b. Computed only for a 2x2 table

Chapter Five: Discussion

5.1 Introduction

This study aimed at investigating the effectiveness of a self-care educational program based on Orem's self-care theory on re-hospitalization rate among patients with congestive heart failure. This chapter is going to discuss the study findings within the light of the related literature. Implications of the study, limitations and strengths, recommendations and conclusions are presented in this chapter.

5.2 Effectiveness of the educational program based on Orem's self-care theory on self-care behaviors among congestive heart failure patients

The results of the present study revealed the effectiveness of the educational program based on Orem's self-care theory in improving the self-care behaviors of Jordanian congestive heart failure patients. This was shown through the significant statistical differences in self-care behaviors between pre and post mean scores of the experimental group that received the educational intervention.

The results showed that there was an improvement in the experimental group participants' self-care behaviors, such as weighting themselves every day, taking it easy if they get shortness of breath and contacting the nurse or the physician if the shortness of breath is increased. In addition, there was an improvement in contacting the doctor or the nurse if his/her leg/feet gets more swollen or if they gain weight. Moreover, the participants were more adhered to limiting the amount of fluids, taking rest during the day, contacting the doctor if experiencing fatigue, eating low salt diet, taking medications as prescribed, taking flu shot and exercising regularly.

These results were attributed to the educational program based on Orem's theory, which is oneself is able to perform self-care activities, maintain their health and well-being with physical activities and self-care demands, which is the totality of self-care actions to be performed for some duration in order to meet self-care requisites by using valid method and related sets of operations and actions. When patients' abilities are greater than their needs, there is a self-care deficit. If this deficit exists, the need for nursing intervention for the deficit, perhaps in health education supporting one another, help others meet therapeutic self-care demands.

Through using the educational program described earlier in chapter three, patients were encouraged to be independent to care themselves and are able to recover more quickly by performing their own self-care. The results of the present study are consistent with the findings reported by (Jaarsma et al., 2017), which indicated that using intervention educational program based on Orem's self-care behaviors of congestive heart failure patients and reducing their re-hospitalization rates.

In addition, the results of the study are in line with the results reported by (Aghakhani, 2017) who reported the effectiveness of an educational program based on Orem's self-care model on improving the quality of life and self-care behaviors of congestive heart failure patients. Moreover, the results of the present study are consistent with the results reported by (Naji, 2009), which revealed that using Orem's model of self-care is very effective in improving self-care behaviors of congestive heart failure patients.

Investigating the effect of self-care behaviors educational program based on Orem's self-care theory on rehospitalization rate among the study participants showed that there is a

significant decrease of rehospitalization rate among the experimental group members within 60 and 90 days period. This reduction in rehospitalization rate is referred to the effect of the educational program that improved the self-care behaviors of congestive heart failure patients.

Congestive heart failure patients go through a variety of phases managing their chronic disease from newly diagnosed to end-of-life care. the vision of this educational program was to assist the congestive heart failure patients through improving their self-care behaviors, and give the patients the tools they need to actively participate in their own care.

Self-care behaviors had been studied extensively as a predictor of readmissions. Self-care is a long term challenge for patients. The way the patients engage and the way they enact self-care may change over the course of heart failure. The National Center of Biotechnology Information (NCBI) defines self-care as behaviors that can help prevent illness or also caring for self when ill. There are some self-care behaviors that are specific to a particular illness such as congestive heart failure and others that are relevant from multiple illnesses. There are some illnesses like diabetes that require pretty extensive frequent self-care and other conditions that don't require much of out of patient.

Heart failure, as other chronic conditions, requires personal, medical, interdisciplinary care as well as lifestyle changes. Despite the high mortality rates reported due to the congestive heart failure condition, still there are reports indicating that the complications and the mortality rates among congestive heart failure patients are preventable conditions. Health education was one of the significant approaches used to achieve that. Health education directed for chronic disease patients aims to actively involve and engage

the patients in decisions and activities aimed at following up the signs and the symptoms of their illness, manage the functional, emotional and interpersonal impact of illness, prevent complications, and maintaining quality of life when living with illness.

The introduced educational program in this study is considered a trend towards more informed decision making, when a congestive heart failure patient makes a decision on health that is based on adequate knowledge about the likely benefits and risks, and consistent with one's personal values and preferences. Orem's self-care theory which was used as a framework for this study is supported by the study results. Providing congestive heart failure patients with information about self-care activities is a resource that could be used by nurses to educate patients on their disease conditions and how to overcome them and prevent complications of their health.

Different studies reported similar results to the findings reported in this study. for example, Clarkson et al (2017) reported that adopting inter-professional congestive heart failure program on 30-day hospital readmission rates. The findings revealed that there was a significant reduction in the readmission rates among the congestive heart failure patients who attended this educational program due to the improvement in their self-care behaviors.

Clarke (2020) ensured the significant role of improving congestive heart failure patients' self-care behaviors in reducing the rehospitalization rates. Clarke reported that providing the congestive heart failure patients with educational sessions at discharge time significantly reduced their readmission in the next 30 days significantly. This was referred to the improvement in the knowledge and practice of the congestive heart failure patients related to self-care behaviors.

In summary, it could be reported that using an educational intervention based on Orem's self-care model is an effective method in improving the adherence and practice of congestive heart failure patients to self-care activities. Providing congestive heart failure patients with sufficient knowledge related to their medical condition and the required self-care activities, in addition to making them independent practitioners of self-care activities, would significantly improve their health outcomes and their adherence to self-care activities.

5.3 Limitations of the study

Despite that the present study was a clinical trial with a comparison and an interventional group, which is considered the most powerful design to infer the casual relationship between many confounding variables, which could affect our results emerged while conducting the study, that are out of our control due to their invisibility and unattainability.

The first limitation of this study was that some participants as they found that the educational program is boring and repetitive. Although the educational program has the advantage of being short, able to reach many participants individually, and at scheduled time, this approach of course, rarely allows for the sort of interaction and active communication that is more hands-on or practical.

Another primary limitation in the current study was the difficulty of detecting changes of health status for the study participants; for example, progression or deterioration of health status, as well as the addition of some medications or changing the recommendation diet is important to modify the content of the educational program to address their learning

needs, so the failure in updating the participants' health-related events might prevent the educational content from approaching its goals.

5.4 Implications and recommendations of the study

In terms of practice: the findings of this study revealed the effectiveness of a training program based on Orem's self-care model in improving self-care behaviors among congestive heart failure patients. So, it is recommended for the stakeholders and decision makers to exploit training sessions based on Orem's self-care model to obtain better outcomes of the treatment. In addition, this training program can be used to follow up with congestive heart failure patients in the transition or discharge period, which may improve the relationship with the patient when they feel that there is someone caring for their health. This would also make it obvious of the importance of communication between patients and health care providers.

Accordingly, the major practical contribution of the current research study is providing much needed empirical data about the use of the training program based on Orem's self-care model in improving the practice of self-care behaviors among Jordanian congestive heart failure patients through increasing their knowledge and awareness regarding the self-care activities that might reduce the complications of congestive heart failure and efficiently promote the health status of congestive heart failure patients.

A second major practical implication of the findings of this study stems from the reframing of the issue of how theory-based training programs might play a significant role in health promotion in general, and among congestive heart failure patients in particular.

In terms of research: the effectiveness of training programs based on Orem's self-care model still needs more research to prove its effectiveness. So, more research is needed in this area with different populations, settings, and diseases. For further research, it is recommended to assess longitudinally the effectiveness of the training programs.

The current study might be extended in search of the effectiveness of training programs in improving the adherence to self-care activities among the patients suffering from other chronic diseases, such as Diabetes Miletus. In addition, the design of the present study might be modified to include more self-care behaviors and in-depth knowledge content that will significantly improve the patients' practice to self-care activities. The content of the educational program might be modified in the future in order to be directed towards the healthy people as well in order to provide them with adequate knowledge regarding the risk factors and facts about congestive heart failure.

In terms of administration: it is important for the administrative authorities to foster the significance of patients and healthcare providers' relationship and having patients as active participants rather than passive participants, and if possible train health care providers how to communicate effectively with patients and use the theory-based training programs effectively for this purpose.

The findings of the present study provide a research-based evidence of how theory-based interventions, specifically Orem's self-care theory, significantly improves the heart failure patients' practice to self-care activities. The adoption of the theory-based interventions might significantly reduce the costs, efforts and challenges encountered by the

healthcare facilities when dealing with patients with chronic diseases such as heart failure, due to reduction in rates of hospital admissions and reduction in the length of stay.

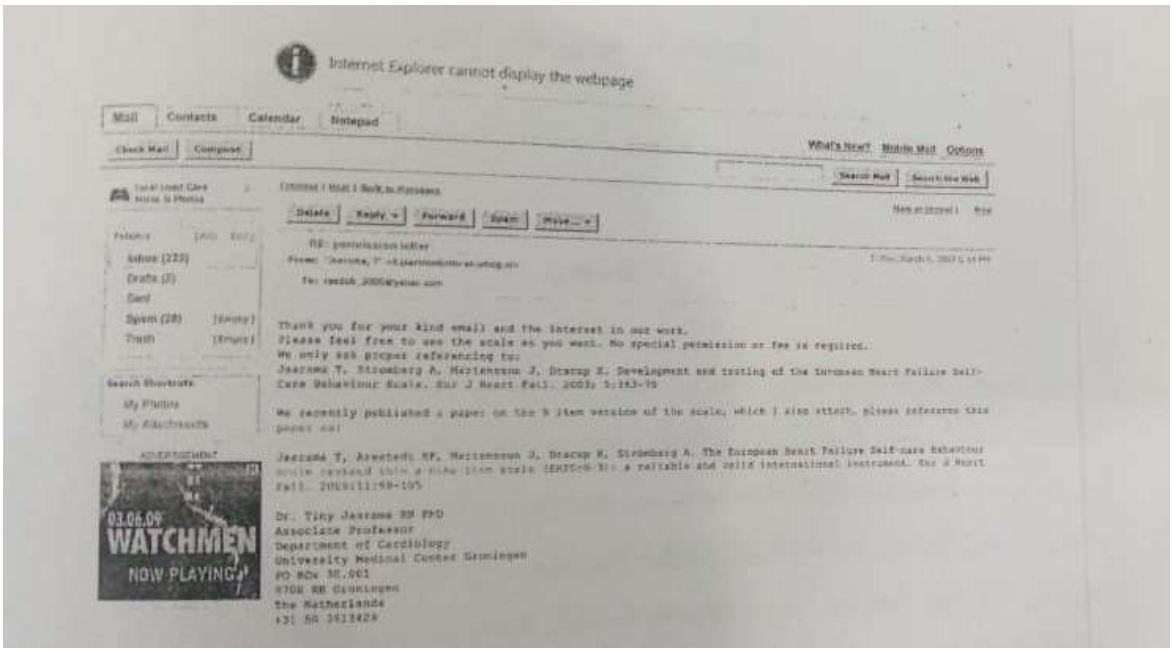
In terms of teaching: courses about communication with patients, its importance and the possible ways that could improve patients-health care provider relationship.

The findings of the present study might provide curriculum developers in the educational institutions with an insight on the significance of integrating theory-based interventions in the health promotion and practice to self-care activities among patients suffering from chronic diseases. Adding theory-based health interventions as a core topic in the syllabus of medical students' study plan will provide the healthcare workers with the opportunity to adopt these interventions in their practical life and consequently affect the quality of the provided healthcare services.

5.5 Conclusion

The theory-based health interventions were reported to significantly help patients ease the burden of taking care of a chronic disease. Training programs were found to be suitable approach to deliver tailored knowledge content to those patients. The simplicity, ease of access and low cost were featuring characteristics of training programs based on health promotion models. In addition, theory-based health intervention is useful for people that have transportation issues, other difficulties, child care or work that interferes with them coming for medical care. The current study investigated the effectiveness of educational, motivational and training program on improving the practice of self-care behaviors and reducing the re-hospitalization rate among heart failure patients in Jordan.

The use of training program based on Orem's self-care model could be useful and promising method to design interventions that seek to enhance adherence with recommended lifestyle behaviors and self-care activities, such as adherence to medications, diet, foot care and exercises. Despite the costs of the training programs, it would be cost effective compared with the cost of non-adherence. Moreover, implementing training programs based on Orem's self-care model is easy and effective way to communicate with the patients, make interventions personalized and interactive and can reach to a large number of patients. However, further study is needed to replicate the study results.


Internet Explorer cannot display the webpage
Mail
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Notepad
Check Mail
Compose
What's New?
Mobile Mail
Options
Delete
Reply
Forward
Spam
Move...
RE: permission letter
Inbox (223)
Drafts (2)
Sent
Spam (28)
Trash
Search Shortcuts
My Photos
Thank you for your kind email and the interest in our work.
Please feel free to use the scale as you want. No special permission or fee is required.
We only ask proper referencing to:
Jaarsma T, Stromberg A, Martensson J, Dracup K. Development and testing of the European Heart Failure Self-Care Behaviour Scale. Eur J Heart Fail. 2003; 5:363-70
We recently published a paper on the 9 item version of the scale, which I also attach, please reference this paper as:
Jaarsma T, Arestedt KF, Martensson J, Dracup K, Stromberg A. The European Heart Failure Self-care Behaviour scale revised into a nine-item scale (EHFSC-9): a reliable and valid international instrument. Eur J Heart Fail. 2009;11:99-105
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03.06.09
WATCHMEN
NOW PLAYING

Tools	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
I weigh myself every day					
If I get SOB I take it easy					
If SOB increases I contact my doctor or nurse					
If leg/feet are more swollen, I contact doctor or nurse					
If I gain weight I contact doctor or nurse					
I limit the amount of fluids					
I take a rest during the day					
If I experience fatigue I contact doctor or nurse					
I eat a low salt diet					
I take my medication as prescribed					
I get a flu shot every year					
I exercise regularly					

Supplements

نموذج موافقة

عنوان الدراسة:

[أثر التعليم الصحي القائم على برنامج مبني على نظرية أوريم للعناية الذاتية لدى مرضى السكتة القلبية: دراسة تجريبية]

الباحث الرئيسي

وائل الحميد

جامعة الإسراء، اربد-الأردن

٠٠٩٦٢-٧٧٢٤٦٩٢٨٥

بريد الكتروني: asemalhameed@gmail.com

الغاية من الدراسة:

المطلوب منك المشاركة في هذه الدراسة، وقبل أن تقرر المشاركة فيها، من المهم أن تفهم السبب وراء إجراء هذه الدراسة وما الذي ستتضمنه. الرجاء قراءة المعلومات التالية بعناية. والرجاء سؤال الباحث إذا كان هناك أي شيء غير واضح أو احتجتم مزيد من المعلومات.

إن الغرض من هذه الدراسة هو دراسة تأثير برنامج تعليمي صحي قائم على نظرية العناية الذاتي لأوريم على مرضى السكتة القلبية.

المخاطر:

من حقك رفض الإجابة عن أي سؤال أو كافة الأسئلة ويمكنك الغاء مشاركتك في أي وقت إن أردت ذلك

الفوائد:

ستكون هذه الدراسة مهمة لأنها تقدم إطاراً واضحاً حول التدخل ببرنامج تعليمي مقترح والذي سيقود لتحسين أنشطة العناية الذاتية التي يتبناها مرضى السكتة القلبية في الأردن. وفضلاً عن ذلك، سوف تثري الدراسة الحالية الأدبيات المتوافرة فيما يتعلق بفعالية التدخل التعليمي على أنشطة العناية الذاتية لمرضى السكتة القلبية.

السرية:

إن إجابتك على هذه الاستبانة ستكون بدون ذكر الاسم. الرجاء عدم كتابة أية معلومات تعرف عليك على ورقة الاستبانة. إن كل جهد سيبذله الباحث للمحافظة على السرية تتضمن الآتي:-

- تشفير أسماء/أرقام المشاركين والتي سيتم استخدامها في كافة مستندات ومدونات البحث.
- حفظ الملاحظات وأوراق الاستبانات وأي معلومات أخرى تعرف على المشاركين في خزانة ملفات

مغلقة تحفظ لدى الباحث بشكل شخصي.

سيتم حفظ بيانات المشاركين بشكل سري إلا في الحالات التي يكون فيها الباحث ملزماً من الناحية القانونية للإشارة لحالات محددة. إن هذه الحالات تشمل بدون أن تقتصر على حالات إساءة الاستخدام وخطر الانتحار.

معلومات الاتصال:

إن كانت لديكم أية أسئلة في أي وقت حول هذه الدراسة، أو حدث لكم أية تأثيرات سلبية نتيجة للمشاركة في هذه الدراسة، يمكنكم الاتصال بالباحث، حيث تم تقديم معلومات الاتصال الخاصة به الصفحة الأولى. إذا كانت لديكم تساؤلات تتعلق بحقك كمشارك في الدراسة، أو نشأت مشكلات لا تشعر أن بإمكانك مناقشتها مع الباحث الرئيسي، الرجاء الاتصال بمجلس المراجعات المؤسسية، جامعة الإسراء.

المشاركة الطوعية:

إن مشاركتك في هذه الدراسة طوعية، ولك أن تقرر ما إذا كنت ستشارك في هذه الدراسة أم لا. فإذا قررت المشاركة في هذه الدراسة، سيطلب منك التوقيع على نموذج الموافقة. وبعد التوقيع على نموذج الموافقة، ستبقى لك رحية الانسحاب في أي وقت وبدون إعطاء أي عذر. إن الانسحاب من هذه الدراسة لن يؤثر على علاقتك بالباحث، إن وجدت. وإذا انسحبت من الدراسة قبل اكتمال جمع البيانات، سيتم إرجاع بياناتك إليك أو إتلافها.

الموافقة:

لقد قرأت وفهمت المعلومات المقدمة إلي وكانت لدي الفرصة لطرح الأسئلة. وأنني أفهم أن مشاركتي طوعية وأن لدي الحرية للانسحاب في أي وقت بدون إعطاء أي مبرر وبدون أي تكلفة. وأفهم أنه سيتم إعطائي نسخة من نموذج الموافقة هذا. وعليه فإنني أوافق طوعياً للمشاركة في هذه الدراسة.

توقيع المشارك: _____ التاريخ:

توقيع الباحث: _____ التاريخ:

الجزء الأول: المعلومات الديموغرافية (الشخصية) للمريض:

الرجاء الإجابة على الأسئلة التالية:

كم عمرك بالسنوات

جنسك؟ ذكر أنثى

حالتك الاجتماعية: أعزب متزوج مطلق أرمل

مكان سكنك: مدينة قرية غير ذلك اذكره ( )

مع من تسكن: بمفردك مع آخرين

ما هي الشهادات العلمية: غير متعلم ابتدائي اعدادي ثانوي ماجستير دكتوراه

هل تعمل؟ نعم لا متقاعد

إذا كان جوابك نعم، ماهي طبيعة العمل؟ ( )

ما هو دخلك الشهري؟ أقل من 300 دينار أردني 300-500 دينار أردني أكثر من 500 دينار أردني

إضافة إلى مرض هبوط القلب، هل عندك أيَّ مرض مُزمن آخر؟ نعم لا

إذا كانت الإجابة نعم اذكره (.....)

ما هو عدد مرات دخولك المستشفى بسبب أعراض مرض هبوط القلب خلال 6 أشهر؟ ( )

هل أنت مؤمن صحيًا؟ نعم لا إذا كان الجواب نعم، ما هي جهة التأمين:.....

هل أنت مدخن: نعم لا

منذ متى وأنت تعاني من مرض هبوط القلب؟ .....

هل يوجد عندكم ميزان في البيت؟ نعم لا

هل يوجد مركز صحي قريب من مكان سكنك؟ نعم لا

الرجاء وضع دائرة حول الإجابة المناسبة والتي تقيس شدة أعراض مرض هبوط القلب بناء على التصنيف الوظيفي لجمعية قلب نيويورك

الصنف الأول	لا يوجد أي تقييد في النشاط البدني، والنشاط الاعتيادي لا يسبب إرهاق وضيق نفس وخفقان القلب أو ألم في الصدر.
الصنف الثاني	تقييد بسيط في النشاط البدني، وأكون مرتاح عند الاستراحة ولكن أعراض هبوط القلب تنتج عند ممارسة النشاط البدني
الصنف الثالث	هناك تقييد ملحوظ في النشاط البدني وأكون مرتاح عند الاستراحة ولكن أعراض هبوط القلب تنتج عند ممارسة النشاط البدني الأقل من الاعتيادي
الصنف الرابع	هناك تقييد شديد في النشاط البدني واعراض هبوط القلب تظهر حتى عند الراحة

الجزء الثاني : الاستبانة الأوروبية لسلوكيات العناية الذاتية لمرضى هبوط القلب

من فضلك صنِّف كل من البنود المعلوماتية التالية بحسب درجة الموافقة بالنسبة لك، الرجاء وضع إشارة في عمود واحد فقط لكل بند.

	البنود	أوافق بشكل كامل	أوافق	غير متأكد	لا أوافق	لا أوافق بشدة	هل قام احد بتعليمك هذا السلوك	من قام بتعليمك أو تود أن يعلمك هذا السلوك
1	أقوم بقياس وزني بنفسي يوميًا						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
2	إذا أصابني ضيق نفس، فإني آخذ الأمر بسهولة						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
3	إذا ازداد ضيق النفس، فإني أراجع الطبيب أو الممرض						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
4	إذا ازداد انتفاخ القدم أو الساق أكثر من المعتاد، فإني أراجع الطبيب أو الممرض						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
5	إذا زاد وزني 2 كيلوغرام بالأسبوع، فاني أراجع الطبيب أو الممرض						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
6	أنا أحدد كمية السوائل التي أشربها (لا تزيد عن 1.5-2 لتر باليوم)						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
7	أنا اخذ استراحة خلال اليوم						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
8	إذا أصبت بإرهاق شديد، فإني أراجع الطبيب أو الممرض						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
9	أنا أتناول طعام قليل الملح						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
10	أنا أتناول دوائي كما هو موصوف						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
11	أنا أخذ مطعوم الأنفلونزا كل سنة						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب
12	أنا أمارس الرياضة بانتظام						1. نعم 2. لا	1.ممرض 2. طبيب 3. صديق 4. قريب

Implementation Guide/Data Collection for HF S2S

Any patient with a diagnosis of congestive heart failure and not currently enrolled in hospice is eligible for this study. Complete the spreadsheet as indicated below:

Initial Visit

- Initial Visit Date
- Name
- Age
- Gender
- Educational level (place last grade completed)
- Living arrangement (alone, spouse, family/friend, other: _____)
- Primary support: Spouse, Family, Paid CG, Other: ____)
- Consent signed (place in project container) AND provide consent to participant
- Scale provided
- Calendar provided
- Assist participant in completing INITIAL SCHFI, then place completed form in secure red binder.
- Complete Data Collection sheet in secure red binder.

Follow-up Visit

- Pull out participants SCHFI – Follow-up from project container, assist participant with completion, then place in secure binder.
- CONGESTIVE HEART FAILURE admissions 6 months prior to initial date

- CONGESTIVE HEART FAILURE admissions 6 months after initial date

Comments on Implementation Process

	Demographics	Initial Visit					Checklist				F/U Visit	HF Admissions	
Date	**Name**	**Age**	**Gender**	**Education**	**Living**	**Support**	**Consent**	**Scale**	**Calendar**	**SCHFI**	**SCHFI**	**Pre**	**Post**
Example	Last, First	Yrs	M F	Grade	A Sp F/F	Sp F/F CG	X	X	X	X	X	#	#

	Demographics	Initial Visit					Checklist				F/U Visit	HF Admissions	
Date	**Name**	**Age**	**Gender**	**Education**	**Living**	**Support**	**Consent**	**Scale**	**Calendar**	**SCHFI**	**SCHFI**	**Pre**	**Post**
Example	Last, First	Yrs	M F	Grade	A Sp F/F	Sp F/F CG	X	X	X	X	X	#	#

	Demographics	Initial Visit					Checklist				F/U Visit	HF Admissions	
Date	Name	Age	Gender	Education	Living	Support	Consent	Scale	Calendar	SCHFI	SCHFI	Pre	Post
Example	Last, First	Yrs	M F	Grade	A Sp F/F	Sp F/F CG	X	X	X	X	X	#	#

Heart Failure Self-care to Success (HF S2S) Program Guide

Program goal: To empower congestive heart failure patients to achieve optimal heart health and independence through self-care maintenance, management, and confidence.

Provider objective: To assist providers in the education of clients in self-care of heart failure.

Materials needed: Congestive heart failure Self-care Care to Success Calendar/Journal and weight scale.

Instruction method: Patient self-paced and one-on-one nurse practitioner counseling.

Process:

STEP ONE Complete and Update Information on Calendar

- Provider information on first page with phone numbers
- Medication list and describe purpose for all medications on back page (may use EHR copy)
- Begin "Month" and fill in dates

STEP TWO Calendar Recordings (maintenance)

- Daily weights
- Level of swelling
- Medication administration
- Other – tests, provider appointments, home health visits
- Encourage client to share calendar with all caregivers and other providers
- Review HF S2S calendar at each visit

STEP THREE Congestive heart failure Education

- Nurse practitioner - quick review of congestive heart failure education on calendar pages
    - Basic knowledge (maintenance/management)
    - Daily weights/record (maintenance)
    - Worsening signs/symptoms (management)
    - Action plan (management)
    - Sodium intake (maintenance)
    - Fluid intake (maintenance)
    - Medication administration (maintenance)
    - Activity (maintenance)
    - Prevention/lifestyle (maintenance)
    - Pulling it all together CONFIDENCE
    - Ongoing one-on-one counseling
- Patient - Self-paced learning
    - Encourage to call with questions about program
    - Develop and adjust congestive heart failure management action plan with provider

Heart Failure

Self-care to Success (S2S)

Heart Failure
Self-care to Success (S2S) Education

Our vision is to empower YOU to achieve

optimal heart health and independence

through self-care maintenance, management, and confidence.

Nurse Practitioner _____ # _____

Cardiologist _____ # _____

Hospital _____ # _____

Emergency Contact _____ # _____

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month_____________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______
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Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ___ Meds: ______ Other: ______

For Emergencies – CALL 911

What is Heart Failure?

- Heart is a muscle
- Heart pumps oxygen in the blood to all parts of your body
- Heart not pumping blood as it should
- Heart does not relax or fill well
    - Fluids back up into lungs
    - Fluids in belly, stomach, legs
- Heart pumping: Ejection Fraction (EF) ________%
    - Blood pumped by left side of heart in 1 beat

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
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**This is why you experience heart failure symptoms

Types of Heart Failure

Systolic

Weak pumping of heart

Ejection fraction low

Diastolic

Heart pumping normally

Normal ejection fraction

Heart not re-laxing

Heart walls are stiff

Heart has trouble filling with blood

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
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Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
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Causes of Heart Failure

- Heart attack
- Coronary artery disease
- High blood pressure
- Heart valve disease
- Enlarged heart
- Alcohol abuse
- Severe lung disease
- Infection of the heart muscle
- Medication side effects
- Congenital (born with) heart problems

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
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- Daily and RECORD
  - Same time
    Morning
    After bathroom use
    Before eating
  - Same weight scale

**Call if increase of 2-3# in 1 day OR 5# in 1 week

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
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- Idiopathic – unknown

- Shortness of breath rest/lying down)
- Swelling/weight gain (changes)
- Weakness and fatigue
- Cough
- Dizziness
- Loss of appetite
- Chest pain

**Call if changes or increase in Signs/Symptoms

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month____________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____
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Heart Failure Symptoms and Action Plan

Symptom	S2S Action
No cough or wheeze Breathing is good Swelling normal Weight stable No change in activity level No change in symptoms	→ This is your GOAL Symptoms are under control Continue current treatment
Weight gain of 3 pounds in 1 day or 5 pounds in 1 week More shortness of breath with activity Harder breathe lying down. More pillows at night More swelling in you feet, ankles, legs, or stomach Feeling more tired. Dizziness. No energy	→ CAUTION Call your nurse practitioner or cardiologist
Struggling to breathe. Unrelieved shortness of breath at rest Chest pain Confusion or unable to think clearly	→ EMERGENCY CALL 9-1-1

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month____________

Swelling
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A = ankles T = thighs

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Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____	Wt.____ ☐ Swelling: ____ Meds: ____ Other: ____

2gram (2000mg) Sodium Diet

- Added salt
- Salt from food

TIPS:

Read labels

Avoid canned and processed foods

Avoid fast food restaurants

Baked, broiled, or grilled foods

Use Mrs. Dash for cooking

Signs/ Symptoms of Worsening Heart

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______
Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______
Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______
Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______
Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______	Wt.______ Swelling: ____ Meds: ______ Other: ______

Fluids

2 liter daily

TIPS:

Drink after meals

Use 4 ounce cups

Hard candy, frozen grapes, gum

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______
Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______	Wt.____ ☐ Swelling: ____ Meds: ______ Other: ______

Medications

- Take daily
- Don't stop taking
- Notify Nurse Practitioner with any problems

TIPS:

Update list
Use pill box/mediset
Watch over the counter supplemental herbs

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______
Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______
Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______
Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______
Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______	Wt._____ Swelling: ____ Meds: _______ Other: _______

Exercises

- Check with provider
- Daily routine
- Physical therapy

TIPS:

Fun activity
Have a partner
Alternate activity
Walk, dance, swim, chair exercises

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______

Prevention and Lifestyle Issues

Pneumococcal Vaccine (one time) ____________________

Influenza Vaccine (annual) ________________________

LIMIT

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______

Self-Confidence

- RECORD
- TAKE CONTROL
- Talk to nurse practitioner
- Discuss PLAN

  Weight, Fluid, Sodium, when to call….

Medications
Y = Yes
N = No
Other: appointments, tests

Self-care to Success (S2S)

Month______________

Swelling
0 = none K = knees
F = feet S = stomach
A = ankles T = thighs

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______
Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______	Wt.____ Swelling: ____ Meds: ______ Other: ______

Pharmacy # ____________

Medication Record

Allergies:

Medication / Dose	How many times	Purpose
		Beta Blocker
		ACEI / ARB

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Summary in Arabic

يعتبر مرض فشل القلب من أكثر الأمراض في العالم مع ارتفاع معدل إعادة القراءة والتكلفة والاعتلال ومعدلات الوفيات. من أفضل الطرق لمنع العواقب السلبية لهذا المرض هو القيام بالسلوكيات الصحية للرعاية الذاتية تهدف هذه الدراسة إلى وصف تأثير سلوكيات الرعاية الذاتية على معدل إعادة دخول في المستشفى بين المرضى المصابين بقصور القلب الاحتقاني في الأردن. سيتم استخدام الأساليب التجريبية والوصفية والرجعية في هذه الدراسة. ولقد تم استخدام تصميم تجريبي لتقييم تأثير سلوكيات الرعاية الذاتية التعليمية الصحية استناداً إلى نظرية OREM في الرعاية الذاتية للمرضى الذين يعانون من فشل القلب. تم جمع البيانات من 120 مريضًا تم قبولهم في المستشفى الجامعي التابع لجامعة الملك عبد الله باستخدام صحيفة البيانات الديموغرافية/السريرية والإصدار العربي من مقياس سلوكيات الرعاية الذاتية لفشل القلب الأوروبي (مقياس EHFSCB). شارك في هذه الدراسة ما مجموعه 120 مريضاً يعانون من فشل القلب. تم توزيع المرضى على مجموعتين؛ مجموعة تحكم (n=60) ومجموعة تجريبية (n=60). تمثل النتائج المعروضة في الجدول (1) الخصائص الديموغرافية والسرية لعينة الدراسة. وكان متوسط عمر المشاركين في مجموعة المراقبة 53.08 سنة، في حين كان متوسط عمر المشاركين في المجموعة التجريبية 51.53 سنة. وكان المشاركون الذكور يشكلون 55% (n=33) من مجموعة السيطرة، في حين كانت الإناث 45% (n=27). أما بالنسبة للمجموعات التجريبية، فقد كان هناك تمثيل متساو للذكور والإناث (50% لكل منهما) الذين يتناولون الأدوية كما هو موصوف، وتم تحديد القيود المفروضة على النظام الغذائي والسوائل والتعرف على الأعراض التي تم التعرف عليها، وكانت أكثر سلوكيات الرعاية الذاتية التي تم تدريسها للمرضى الأردنيين الذين يعانون من فشل القلب. وقد حددت هذه النتائج الحاجة إلى

التدريب المستمر على سلوك الرعاية الذاتية لكل من الممرضات والمرضى الذين يعانون من فشل في القلب. وقد تؤدي آثار هذه الدراسة على الممارسة والتعليم والإدارة والبحث إلى نتائج إيجابية ليس فقط بالنسبة للمرضى وأسرهم بل أيضا بالنسبة للمجتمع بأسره.