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Outcome of Conducting Self-Management Educational Sessions on Quality of Life among Patients with Chronic Heart Failure

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Abstract
Self-management is recognized as an effective approach for managing heart failure as it is associated with a variety of positive patient outcomes including improved quality of life, lower mortality rate, decrease hospitalizations, and health care costs as well. **This study aimed** to evaluate outcome of conducting self-management educational sessions on quality of life among patients with chronic heart failure. **Method:** A quasi experimental research design was utilized to conduct this study. A purposeful sample technique was used to select the study sample. Data collection tools: Two tools were used in this study: First tool consisted of 2 parts; **Part I:** Patient's Demographic and Medical Data. **Part II*:*** Self-care of Heart Failure Index. Second tool was The RAND 36-Items Health Survey; also called 36-item Short Form Health Survey (SF-36). It was used to assess quality of life for the patients with chronic heart failure. **Results:** highly statistically significant differences were fund regarding the self-care behaviors among the studied patients before and after the implementation of the self-management educational sessions with $P < 0.001$. As well, there was a highly statistically significant relation between quality of life and conducting the educational sessions about self-management. **Conclusion:** This study concluded that, self-management had highly statistically significant effect on improving self-care behaviors and promoting the patient's quality of life but with no statistical significance. **Recommendation:** The current study recommended that, self-management educational sessions could be helpful for patients with chronic heart failure to improve their quality of life. So, it is important to be included in the routine inpatient discharge plan.

Keywords: Self-Care-Management, Quality - of –Life &Chronic- Heart-Failure

Introduction
Self-management is the ability of the individual, with his family, and healthcare team to manage symptoms, treatments, lifestyle changes and psychosocial, cultural, and spiritual issues consequences of with chronic diseases. It is an ability and process that an individual uses in conscious attempts to gain control of on his or her disease, rather than being controlled by the disease itself. Self-management is usually used in long term, chronic health conditions; it could be applied for health promotion activities as well as to those related to acute or chronic illness. Self-management is different from disease-management which is not under the individual patient's control but refers to healthcare systems that are put in place to facilitate healthcare provider's ability to manage a patient's chronic illness **(Omisakin & Ncama 2011; Da Conceição et al., 2015; & Jaarsma et al., 2021).**
Self-management has its own principles which include goal setting, self-monitoring, and information processing. Goal setting involves patients' education on about the management of their chronic health condition which sets the foundation for a collaborative interaction between the patients and care provider to establish individualized goals to enhance quality of life as well as lifestyle behaviors **(Walter et al., 2020).**
Self-management means the ability of patients to be engaged in practices and behaviors that help them to gain optimum control over their disease.
Implementing concept of self- management in chronic diseases is linked to the maintenance of the appropriate level of physical and psychological well-being, decrease in morbidity and mortality rate and in the use and cost of healthcare, improve the quality life and increase patient's satisfaction. So self-management is considered as essential concern in the care for patients with chronic diseases **(Da Conceição et al., 2015).**
Improving outcomes of patients with chronic disease conditions will reflect on increasing the number of individuals living with chronic diseases, and manage their need for health services. It is a challenge faced all health team members and policy makers across health system. Patients with chronic health condition use the majority of health services and they are often expected to manage their conditions at home for much of their lives. It has been recognized that self-management should form an important part of any model of care for those patients living with chronic

conditions. Chronic diseases are the main reason of mortality worldwide, for instance heart failure standing out as one of the leading causes of hospitalization and high rates of morbidity and mortality in many countries. Chronic heart failure (CHF) is currently one of the major health problems worldwide, and its multifaceted and progressive nature often result in adverse events, such as poor quality of life that may increase the frequency of re-hospitalization and mortality, which could be reduced if there is appropriate implementation of self-management concept **(Barker et al., 2018)**.

Self-management for patients with CHF refers to the behaviors developed by individuals to maintain their health through compliance to the pharmacological recommendations, intake of a low-salt diet, cessation of tobacco use, limited alcohol consumption, as well daily monitoring of body weight, signs, and symptoms of decompensating heart failure. So, self-management is a decision-making process that patients use in choosing behaviors that maintain his physiological stability and response to the symptoms when they occur **(Da Conceição et al., 2015; Hwang et al., 2020; Delgado et al., 2021).**

Self-management education for patients with CHF aims at helping patients to maintain their own efforts controlled, as well maintaining the best possible health with better quality of life. This is done by focusing on three sets of tasks; the first task involves the medical management and includes compliance to the medications and special diet ordered. The second set of tasks involves maintaining, changing, and creating new meaningful behavior of lifestyles. The final task includes the needs to deal with the emotional consequence of having a chronic condition, which alters the patient's view for the future. Emotions such as anger, fear, frustration, and depressions are commonly experienced by individuals who have chronic disease; learning to manage these conditions becomes part of the work which required managing such group of patients with chronic health conditions **(Van de Velde et al., 2019).**

Significance of the Study

Chronic heart failure is one of the most common causes of hospitalization, which affect patient's quality of life. It has significant impact on physical, cognitive, emotional, and social aspects, as well as financial burden on such group of patients, as it is contributing to the multifaceted morbidity and mortality of the disease. Due to the complexity and long-term nature of heart failure regimens, there is an urgent need to the patients to be fully aware by the importance of intervention in the early phases of the disease from the medical and nursing perspectives as well from behavior lifestyle perspectives. Patients' self-management is crucial in avoiding as well improving quality of their life. Unfortunately, many patients are unaware by self-management concept. Therefore, this study was conducted to orient the patients with principles of self-management and evaluate their outcomes on patients' behaviors and on the patients' condition as well to overcome such significant consequence and improve quality of life for those patients with CHF (**Shaw et al., 2014; & Liao & Peng, 2019).**

Aim of the Study

To evaluate outcome of conducting self-management educational sessions on quality of life among patients with chronic heart failure through:

- Assessing outcome of educational sessions on self-management before and after intervention on patients with chronic heart failure.
- Assessing quality of life among patients with CHF before and after conducting educational session.

Research Hypothesis

The current study proposed that conducting self-management educational sessions will affect positively on quality of life among patients with chronic heart failure

Research Design

This study utilized a quasi-experimental study design. This study started from the beginning of September 2021 to the end of March 2022.

Setting of the Study

This study was conducted at 7 inpatients' medical wards and outpatients' clinics in one of the governmental hospitals; where the flow of patients is relatively high, and most of the patients may have limited resources to car their own self.

Sample of the Study

To calculate the sample size of the current study, the researcher used the Epi info, version 6, to obtain the required sample size, with taking into consideration that this study was an intervention study, and the researcher found that the accurate sample size with 95% confident level, 80% power, so the represented sample size could be 93 but the researcher select 50 participants only, as after assessment and following up, it was found that only 50 participants who attended in the hospital for follow up on a regular base, so the researcher would be able to follow up them in the outpatient clinic after conducting the self-management educational sessions. In this study, the researcher utilized a purposeful sampling technique.

Inclusion and Exclusion Criteria

Adult patients, diagnosed as CHF with mild or moderate case allowed participating in the study without developing any complications, the patients should be alert, and oriented to time, place and persons. With regard to exclusion criteria which

include patients who had any cognitive dysfunction or which could interfere with conducting self-management educational sessions.

Data Collection

Data were collected by using two tools; **First Tool consisted of 2 parts as follows; Part one: Patient's Demographic and Medical Data;** that was used to collect data about patient's gender, age, educational level, marital status, work status, and duration of having heart failure. **Part two; Self-Care of Heart Failure Index (SCHFI);** adopted from **Riegel et al. (2009) and Vellone et al. (2020),** it was used to evaluate self-care behaviors among patients with chronic heart failure.

This index consisted of three components, distributed as follows:

First component; self-care maintenance consisted of 9 items that were used to assess behaviors aimed at maintaining heart failure stability, as try to avoid getting sick through wash hands, do some exercises like take a brisk walk, use the stairs, eat a low-salt diet, see the healthcare provider for routine healthcare regularly, take prescribed medicines without missing a dose, order low-salt items when eating out, ask for low-salt foods when visiting family and friends, use a system or method to help the patient member to take medications, and ask healthcare provider about medicines.

Scoring system for the first component was done as follows; the responses to each item ranged from "never" (1), "rare" (2), "sometimes" (3), "often" (4), and "always" (5).

Second component; symptom perception included 11 items, that were used to monitor body weight daily, pay attention to changes in how the patient feels, looks for medications side effects, notice whether the patient is tired more than usual while doing normal activities, ask healthcare provider how the patient could be monitored closely for symptoms, check ankles for swelling, check for shortness of breath with activity such as bathing and dressing, keep a record of symptoms the last time had symptoms, how quickly did the patient recognize that she/he had symptoms, how quickly did the patient know that the symptom was due to heart failure.

Scoring system for the second component was done as follows; first nine items evaluated by how often the patient performs specific behavior. Scoring of these nine items was done as follows; the response to each item ranged from "never" (1), "rare" (2), "sometimes" (3), "often" (4), and "always" (5). With regard to the last two items, they evaluated how quickly patients recognized and interpreted heart failure related symptoms the last time they occurred. Scoring system of these two items was as follows; if the patient did not have symptoms, she/he choose "not applicable", "Did not recognize symptoms would get (0), or the patient would get one of the 4-point likert scale that ranged from "not likely" (1), "somewhat likely" (2),"likely" (3), to "very likely (4).

Third component was self-care management that had 8 items; the first 7 items were evaluated how likely the respondent would perform some commonly used behaviors to manage heart failure symptoms when they occurred such as; restricted the salt that the patient eat every day, reduced fluid intake, took medications as prescribed, called healthcare provider for guidance, asked a family member or friend for advice, tried to figure out why the patient had symptoms, limited activity until felt better, and item eight was about patient's thinking if the treatment used the last time when had symptoms let the patient felt better or not.

Scoring System

of third component was done by using a 4- point likert scale for responses ranged from not likely" (1), "somewhat likely" (2), "likely" (3), and "very likely" (4); the eighth item used the following responses: "I did not do anything" (0) or "Not sure" (1), "Somewhat sure" (2), "Sure" (3), "Very sure" (4). The scoring system of the whole SCHFI scale was done as follows; three separate scores calculated, each score standardized from 0 to 100, with higher scores indicating better self-care; a score $\geq$70 used to indicate adequate self-care behavior on each SCHFI scale.

Second Tool; RAND 36-Items Health Survey; also called 36-item Short Form Health Survey (SF-36).

It is a set of generic, coherent, and easily administered quality-of-life measures, adopted from **Nanda and Andresen, (1998), Ware and Sherbourne (1992), and McHorney et al. (1994),** this tool was used to assess overall health status and quality-of-life for the patient with CHF. This tool composed of 36 items grouped into six domains; general health perception, limitations in physical activities because of health problem, limitations in usual activities because of emotional and mental problems, generalized pain interferes with normal work, limitations in social activities because of physical or emotional problems, and status of vitality, energy, and fatigability. The SF-36 assesses positive health aspects and well-being as well negative health aspects (such as disease or illnesses).

Scoring system of the SF-36 tool each domain was scored as follows: The scores weighted sums of the questions in each section. Scores ranged from 0 – 100, where lower scores = more disability which resulting poor quality of life, higher scores = less disability reflecting good quality of life.

Validity and Reliability

Validity was done to assess to which degree the tools would measure what proposed to be measured. With

regard to this study, validity of the tools was tested by 3 Professors from Medical Surgical Nursing, as they ensured that the tools assessing all components of the study that respond to the study hypothesis and achieve its aim. Moreover, the researcher ensured that the translated version is accurately reflecting the meaning of the original version. Meanwhile, the reliability was done to identify the accuracy of the obtained data in the research study, it was assessed by using Cronbach's alpha test, and its values were as follows; SCHFI = 0.98 and Short-Form Health Survey = 0.90.

Data Collection Process

This study was carried out over 7 months in three phases.

The preparatory phase

In this phase the researcher read the most relevant literature and develop the tools for data collection and selected the patients who were hospitalized and met the inclusion criteria during the time of conducting the study and they agreed to participate in the study, after that, the researcher explained to the patients the aim of the study, the tools that they will be used to collect data, as well the process the study implementation, as well informed the selected patients about the ethical considerations.

Ethical Considerations

Approval for conducting this study was obtained from the Hospital Director after explaining its aim, implementation plan, and the policy of maintaining the participants' rights and confidently throughout the study. Based on the hospital administration request the hospital name was kept confidentially. The researcher informed the participants that, they had the right to withdraw from the study at any time without giving any reason. In addition, the researcher informed them that, the data collection tools were anonymously designed. After all these clarifications, the researcher obtained approval from each participant that they are proved and willing to participate in the study.

Pilot Study

A pilot study was conducted before the actual data collection. The pilot study was done on 10% of the study subjects (5 patients) to ensure that carrying out the study plan and the tools were accurately working. The results of pilot study revealed that, the data collection tools needed some modifications and reordering of the contents to be understood. The tools were modified accordingly and the patients who participated in the pilot study were excluded from the main study sample.

Implementation Phase:

The researcher carried out the baseline assessment to assess patient's demographic and medical data, his/her self-management about CHF, and this tool was filled in by the researcher through interviewing the study subjects and it took about 40 minutes to be completed. About the quality-of-life tool, this tool was used to assess patients' quality of life before and after conducting the educational sessions of self-management. The researcher interviewed the study subjects to complete this tool, and it took approximately 45 minutes to be filled. Based on the findings which representing the patients' needs, the researcher grouped the patients who are similar cases in separate small ones, each group ranged between 6 and 8 patients, and they conducted two sessions for each group about what meant by self-management concept and how it would be implemented according to each patient's needs. The sessions included the following parts; how the patients with CHF can manage their condition for maintaining the quality of their life through explaining to them; basic knowledge about CHF, medications used for treatment, and their side effects, the appropriate actions that should be done to handle medications' side effects if any, how the patient could deal with symptoms of CHF. At the end of each session, the researcher provided each patient with a copy from written instructions suggested about what had been taught to them in the conducted sessions, and this was done in addition to adopting healthy lifestyle concerning controlling body weight, restricting salt in diet, smoking cessation, allowed amount of fluid intake per day, and importance of performing physical exercises which given to them by the researcher.

After that, the researcher followed up the patients every two weeks in the first 3 months, and the follow up was done during patients' visits in the outpatient clinic and through phone calls. Additionally, the researcher asked the patients about their follow up visit date and took their mobile number to contact them for follow up. After another 3 months, the researcher reassessed he patients about their behavior changes related to self-management for CHF and quality of their life by using the same previously mentioned tools and according to the findings the statistical analysis was done.

Statistical Analysis

The studied sample data were proceed using the Statistical Package for Social Sciences (SPSS) version 21 software, and the results were reported in the descriptive statistics formats (frequency, mean and standard deviation) and analytical statistics. Tables were used to describe the variables. The normality of data was measured by Kolmogorov-Smirnov test, and then with independent sample t-test, paired t-test, and Chi-square.

Results

Table (1): Frequency and Percentage Distribution of Demographic Characteristics of the Studied Sample (n=50).

Items	N	%
Gender		
Male	29	58
Female	21	42
Age in years		
50 - < 55	3	6
55- < 60	22	44
60 - < 65	16	32
65 +	9	18
$\bar{x}$ ± SD	**61.5 ± 3.8**	
Educational level		
Read and write	30	60
Intermediate level	17	34
High level	2	4
Illiterate	1	2
Marital status		
Married	40	80
Widowed	10	20
Work status		
Working	29	58
Not working	21	42
Duration of having chronic heart failure		
1-3 years	28	56
4-6 years	17	34
More than 6 years	5	10
$\bar{x}$ ± SD	**3.6 ± 2.1**	

Table (2): Assessment of Self-Care Behavior among Patients with Heart Failure among the Studied Subjects (n= 50).

Items		Before intervention		After intervention		Paired t-Test
		Mean	SD	Mean	SD	
Self-Care Maintenance						
1	Try to avoid getting sick (e.g., wash hands)	2.40	0.857	3.18	0.774	0.000
2	Get some exercises (e.g., take a brisk walk, use the stairs)	1.28	0.536	1.80	0.728	0.003
3	Eat a low-salt diet	1.18	0.437	2.66	0.745	0.372
4	See the healthcare provider for routine healthcare	1.20	0.451	1.58	0.758	0.008
5	Take prescribed medicines without missing a dose	1.66	0.823	2.62	0.830	0.251
6	Order low-salt items when eating out	1.08	0.340	1.86	0.926	0.010
7	Ask for low-salt foods when visiting family and friends	1.12	0.435	1.74	0.75	0.501
8	Use a system or method to help you remember your medicines time	1.26	0.486	2.26	0.852	0.002
9	Ask your healthcare provider about medicines	1.04	0.197	1.48	0.614	0.225
Total Self-care Maintenance		**1.38**	**0.725**	**2.12**	**0961**	*****0.000**
Symptom Perception Scale						
1	Monitor weight daily	1.16	0.370	2.82	0.800	0.007
2	Pay attention to changes in	1.22	0.464	2.96	0.832	0.001
3	Monitor medications side effects	1.14	0.452	2.98	0.979	0.046
4	Notice if they feel tired more than usual while doing normal activities	1.12	0.328	2.38	0.878	0.004

Items		Before intervention		After intervention		Paired t-Test
		Mean	SD	Mean	SD	
5	Ask healthcare provider how they are doing	1.04	0.197	1.62	0.878	0.022
6	Monitor symptoms closely	1.16	0.421	3.12	0.982	0.166
7	Check ankles for swelling	1.16	0.421	3.30	0.839	0.148
8	Check for shortness of breath with activity such as bathing and dressing	1.14	0.404	3.28	0.904	0.161
9	Keep a record of symptoms and time of occurrence	1.02	0.141	2.54	0.908	0.105
10	How quickly did they recognize occurrence of the symptoms?	1.28	0.453	2.82	0.873	0.001
11	How quickly they know that the symptom was due to heart failure?	1.30	0.505	2.88	0.939	0.004
Total of Symptom Perception Scale		**1.22**	**0.464**	**2.72**	**0.948**	***0.000
Self-Care Management						
1	Further limit the salt they eat that day	1.22	0.464	2.60	0.699	0.040
2	Reduce your fluid intake	1.16	0.421	2.38	0.725	0.006
3	Take a medicine	1.84	0.710	2.84	0.791	0.256
4	Call healthcare provider for guidance	1.10	0.364	1.46	0.645	0.264
5	Ask a family member or friend for advice	2.28	0.701	1.580	0.730	0.256
6	Try to figure out why they have symptoms	1.22	0.464	1.94	0.739	0.017
7	Limit activity until they feel better	1.56	0.611	2.52	0.677	0.001
8	Think of a treatment used the last time they had symptoms. Did the treatment used make they feel better?	1.18	0.388	2.18	0.560	0.003
Total of Self-Care Management		**1.32**	**0.55**	**2.16**	**0.738**	***0.000

- Level of significance reflecting data in this table
**** Highly significant P < 0.001*

Table (3): Frequency and Percentage Distribution of Total Self-Care Behavior Components Before and After Conducting self-Management Sessions among the Studied Sample (n= 50).

Items		Never		Rare		Sometimes		Often		Always	
		No	%	No	%	No	%	No	%	No	%
Before Conducting Self-Management Session											
1	Self-care maintenance	37	74	8	16	4	8	1	2	0	0
2	Symptom Perception Scale	40	80	9	18	1	2	0	0	0	0
3	Total of self-care management	36	72	12	24	2	4	0	0	0	0
After Conducting Self-Management Session											
1	Self-care maintenance	16	32	16	32	14	28	4	8	0	0
2	Symptom Perception Scale	6	12	13	26	20	40	11	22	0	0
3	Total of self-care management	9	18	25	50	15	30	1	2	0	0

Table (4): Total of Self-Care Behavior Components among the Patients with Heart Failure in the Studied Subjects (n= 50).

Items		Before intervention		After intervention		T-test
		Mean	SD	Mean	SD	
1	Self-care maintenance	1.38	0.725	2.12	0961	0.000
2	Symptom perception	1.22	0.464	2.72	0.948	0.000
3	Self-care management	1.32	0.55	2.16	0.738	0.000
Total Self Care		1.30	0.579	2.33	0.088	0.000

Table (5): Patient's Quality of Life Domains Mean Scores Before and After Conducting Self-Management Sessions among Patients with Chronic Heart Failure in the study group.

Items		Before intervention				After intervention				T-test
		Yes		Mean	SD	Yes		Mean	SD	
		No	%			No	%			
1	General health perceptions	10	20	3.305	0.758	11	22	3.41	0.708	0.186
2	Limitations in physical activities because of health problems	12	24	2.605	0.862	10	20	2.51	0.824	0.308
3	Limitations in usual activities because of emotional and mental problems	11	22	3.17	1.032	9	18	3.23	1.077	0.415
4	Generalized pain interfered with normal work	12	24	2.69	1.105	7	14	3.17	1.286	0.011
5	Limitations in social activities because of physical or emotional problems	11	22	3.52	0.868	6	12	3.02	0.844	0.077
6	Lack of vitality (energy & fatigue)	15	30	3.57	0.819	13	26	3.55	0.926	0.431
Total QOL		9	18	3.23	1.077	12	24	2.605	0.862	0.091

Table (6): Correlation between Self-care Behaviors and Quality of Life among the Studied Subjects Before and After Conducting the Educational Sessions.

Before Conducting Educational Sessions						
Better self-care behaviors	**Quality of life**				**P-value**	**Significance**
	Good QOL		**Poor QOL**			
	No.	%	No.	%		
	9	18	41	82	9.491	0.002
After Conducting Educational Sessions						
Better self-care behavior	**Quality of life**				**P-value**	**Significance**
	Good QOL		**Poor QOL**			
	No.	%	No.	%		
	12	24	38	76	20.096	0.000

Table (1): Shows that, 58% of the patients in the studied subjects were males. Concerning their age, it ranged between 50 to 65 years old or more, with a mean age of 61.5 ± 3.8 years old. With regard to their educational level, the same table also reveals that, 60%, 34%, 4%, and 2% of them can read and write, had intermediate educational level, had high educational level, and are illiterate respectively. Meanwhile, 58% of them are working and 56%, the duration of having CHF ranged between 1 to 3 years.

Table (2): Shows that, there are highly statistically significant differences among the studied subject's assessment regarding self-care behaviors in three components: self-care maintenance, symptom perception, and self-care management after providing self-care management sessions with p = 0.000.

Table (3): Shows that, 74%, 80%, and 72% among the studied sample never utilized self-care behavior components including self-care maintenance, symptom perception scale, and self-care management respectively before conducting the self-management educational sessions. Meanwhile, after conducting the educational sessions of self-management, the same table reveals that, 28%, 40%, and 30% of the studied sample sometimes utilized self-care behavior components of self-care maintenance, symptom perception, and self-care management respectively.

Table (4): Reveals that, there were highly statistically significant differences in the studied sample regarding self-care behavior components including self-care maintenance, symptom perception, and self-care management after conducting the educational sessions about self-care management with p = 0.000.

Table (5): Reveals that, 20%, 24%, 22%, 24%, 22%, and 30% of the studied subjects were having perception about quality of their life before conducting self-management educational sessions as they had the following; positive perception about their health, limitations in physical activities because of heart failure, limitations in usual physical activities because of emotional and mental problems, generalized pain interfered with normal work,

limitations in social activities because of physical or emotional problems, and lack of vitality (energy and fatigue) respectively, versus, 22%, 20%, 18%, 14%, 12% and 26% among the studied subjects respectively after conducting self-management educational sessions. In addition, the same table shows that, there was a highly statistical significantly difference among the studied subjects regarding suffering from body pain before and after conducting self-care management educational sessions at p = 0.000.

Table (6): Shows that, the studied subjects who had better self-care behaviors with good quality of life were 18% only before conducting the self-management educational sessions. Meanwhile, after conducting the self-management educational sessions 24% of them developed good quality of life. In addition, the same table shows that, there was a highly statistically significant relation between pre and post conducting the self-management educational sessions and quality of life among the studied subjects with p = 0.000.

Discussion

Heart failure guidelines stress on the importance of patient education about the treatment, lifestyle changes, and symptoms' monitoring and adequate response to possible deterioration in the condition. Self-management is considered an essential concept in the management of chronic illnesses. It could be defined as a naturalistic decision-making process of maintaining health through health-promoting practices and managing illness. Self-management for individuals with chronic illness is more prominent because their self-management is related to their outcomes such as better quality of life as well as lower mortality rate and readmission rates **(Riegel et al., 2017).**

In the current study, more than fifty percent of the studied sample were males. With regard to their age, it ranged between 50 and 65 years old or more with mean age of 61.5 ± 3.8 years. Meanwhile, the present study results revealed that three fifth of the studied sample can just read and write and almost one third of them had intermediate level of education, however, minorities of them had either high degree of education or were illiterates. Concerning work status, this study result showed that, nearly three fifths of the studied sample were working and slightly more of them had no work. In addition, this study finding showed that, for more than fifty percent of the patients under the study, the duration of having chronic heart failure ranged between 1 and 3 years, while for the minority of them representing one tenth, the duration was more than 6 years.

As regards self-care behaviors assessment of the study group before conducting the educational sessions reported that, the majority of the patients in the studied sample never followed most of self-care items in the three components: self-care maintenance, symptom perception, and self-care management. However, nearly one third of the patients in the studied sample started to utilize the above-mentioned items of self-care behaviors from time to time after conducting the self-management educational sessions. In addition, there were highly statistically significant differences related to the three-self-care behavior components; self-care maintenance, symptom perception scale, and self-care management before and after conducting the self-management educational sessions among patients with CHF. This may be due to, that the patients before conducting the educational sessions had no idea and were not aware by those self-management behavior components and their importance, and after explaining them by the researcher, patients realized how much they are important to be able to manage their condition, so they started to follow them, also, the patients in the studied sample received educational instructions that were focused on their conditions. This finding is supported by that of **Dessie et al. (2021),** who clarified in their very recent study, that educational programs encourage patients to monitor symptoms, take medications, and compliant to behavioral guidelines, as well as empower patients to make decisions about when further care is needed, and to engage them as active partners with healthcare providers in managing their care.

Moreover, **Abbasid et al. (2018)** highlighted that, the efficient of self-management education program increases the individual's abilities and skills for following and participating in the long-term healthcare plan, and reduces the length of hospital stay, so patient education is necessary for the effective management of CHF symptoms; also, they recommended that the patients with CHF receive individualized education and counseling sessions, which placing emphasis on self-care. Additionally

Liou et al. (2015) stated that, the effectiveness of self-management education could improve patients with heart failure self-care maintenance and management behaviors.

Interestingly, the current study finding reported that, there was a highly statistically significant relation between conducting self-management educational sessions and quality of life of the studied subjects. This may be due to that, implementing self-management principles help the patients to be more aware by their disease, medications' side effects, healthy lifestyle, and being aware by all these elements will improve patients' general condition that

consequently will reflect positively on their health condition in general and on their quality of life in particular. This finding is in the same line with that of **Rasoul et al. (2019)** who indicated that, self-management education should be implemented in order to enhance patients' quality of life, as it is proposed that education should be taken more seriously as it has significant effect on patients' general condition, which highlights its importance.

Similarly, **Ghiyasvandian et al. (2017)** reported that self-management education was effective on the quality of life of patients with chronic diseases and recommended that health policymakers should consider the important role of education in the management and control of chronic diseases, as more efficient and effective self-management educations reflected positively on the general condition of such group of patients. Furthermore, several scattered researches as those of **Kessing et al. (2017); Musekamp et al. (2017); Abbasi et al. (2018); & Choi, et al. (2022)** proved that, self –management education improved the quality of life of patients with chronic heart failure, and that healthcare providers especially nurses should be considered it as one of the most important educational approaches for patients' education.

Conclusion

The self-management intervention had a highly statistically significant effect on improving self-care behaviors among the studied patients with CHF and also in promoting their QOL with highly statistically significant relation.

Recommendations

The current study recommended that, self-management educational sessions could be helpful for patients with CHF to improve their quality of life. So, it is important to be included in the routine inpatient discharge planning guidance. As well, it is recommended to conduct this study in all hospital departments in order to be able to generalize the findings, and to implement it in long term in order to be able to verify the findings.

Limitations

The current study had some limitations as the small sample size could prevent the researcher to generalize the study finding. In addition, the study results revealed that the self-care program had a positive impact on self-care during a 3-month time period. Further research could include a longer time period in order to verify measurement of the intervention period effect.

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