Assessment of Self-Care Activity of Heart Failure Patients in Erbil City

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Abstract

Heart failure is a chronic disease that has the significant influence on the health of persons worldwide. The objective of this study was to assess self-care of patients with heart failure in Erbil City. A cross-sectional study design was undertaken among 50 patients with heart failure form 20th February 2017 to 10th October 2017, to collect the data patients who met the inclusion criteria were selected and questionnaires were filled through interviewing. The questionnaire included demographic, medical data and self- care activity. Data analyzed through descriptive and inferential statistical tests. The majority of patients with heart failure had poor self-care maintenance, management, and confidence. There was significant association between self-care and age (P= 0.039), gender (P = 0.047), level of education (P = 0.033) and economic status (P= 0.027). Also there was significant association between New York Heart Association and self-care (P= 0.027). Moreover, there was significant association between self-care of heart failure with hypertension (P= 0.009), coronary heart disease (P= 0.034) and diabetes mellitus (P= 0.047). The study concluded that patient's self-care of heart failure was poor. Nurses should apply a standard guideline to improve self-care activity of heart failure patients.

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ABSTRACT

Heart failure is a chronic disease that has the significant influence on the health of persons worldwide. The objective of this study was to assess self-care of patients with heart failure in Erbil City. A cross-sectional study design was undertaken among 50 patients with heart failure form 20th February 2017 to 10th October 2017, to collect the data patients who met the inclusion criteria were selected and questionnaires were filled through interviewing. The questionnaire included demographic, medical data and self-care activity. Data analyzed through descriptive and inferential statistical tests. The majority of patients with heart failure had poor self-care maintenance, management, and confidence. There was significant association between self-care and age (P= 0.039), gender (P = 0.047), level of education (P = 0.033) and economic status (P= 0.027). Also there was significant association between New York Heart Association and self-care (P= 0.027). Moreover, there was significant association between self-care of heart failure with hypertension (P= 0.009), coronary heart disease (P= 0.034) and diabetes mellitus (P= 0.047). The study concluded that patient's self-care of heart failure was poor. Nurses should apply a standard guideline to improve self-care activity of heart failure patients.

Keywords*: Heart Failure, Self-Care, Erbil City.*

1. INTRODUCTION

Heart failure (HF) is a chronic disease that has the significant influence on the health of persons (Young, 2004). It is estimated that the number (23 million) of people with heart failure (HF) worldwide will continue to increase rapidly (Lloyd *et al.,* 2010 and Bui *et al., 2011*). HF is a public health problem because extremely had high morbidity and mortality rates (Albert, 2006). Self-care activities are a main starting point for engagement, but do not fully decrease the burden on the health system or reach ideal outcomes (Jowsey *et al*., 2014). Sufficient self-care activity related to HF reflects the practices that a patient undertakes to maintain healthy functioning and well-being. Patients who are actively involved in their own care, treatment and adhere to the regimen have improved survival, decreased readmissions and enhanced quality of life (Jaarsma *et al*., 2003). In order to provide self-care activity one must have enough knowledge to identify problems and implement strategies to correct the problems (Blauer *et al.,* 2015). Self-care maintenance is concerned with weighing daily, checking for edema, adhering to sodium restrictions, getting physical activity, and taking medications appropriately, so the patient should understand these instructions (Enc et al., 2010). Self-care management indicates decision-making process that heart-failure patient use in choosing actions that sustains physiological stability and responds to the symptoms when they occur (Ana *et al*., 2015). Self-care confidence is the perceived ability to take control of ones care at every stage of treatment; a confident person is more likely to implement appropriate interventions (Salyer *et al*., 2012). Knowing the self-care activity is important for nurses to have an understanding of this phenomena and design interventions appropriately for HF patients so it has become to a better disease control and consequently, a better quality of life. Therefore, the aim of this study was to identify self-care activity (self-care maintenance, self-care management, and self-care confidence) of patients with heart failure.

2. METHODOLOGY

A descriptive study/cross-sectional design was used to assess self-care activity in patients with heart failure in Medical Words and Cardiac Care Unit in Rizgary Teaching Hospital in Erbil City form 20th February 2017 to 10th October 2017, In order to obtain the accurate data and representative sample, a non-probability (purposive) sample was used to select heart failure patients according to the following criteria: patients who agree to participate in the study, diagnosed with heart failure, age more than 18 years old and have been taking medication for at least six months ago.

Data were collected through the use of questionnaire; questionnaires were filled through interviewing to collect demographic data and clinical characteristics of patients (age, gender, level of education, marital status, occupation, family income, hospitalization in last year and New York Heart Association Class (NYHA) a clinical tool used to evaluate cardiac symptoms on a patient's daily activities. Class I patients did not have any limitations of physical activity. Class II patients had slight limitation of physical activity; Class III patients had limitation of physical activity. Class IV patients were unable to carry on any physical activity (Spencer *et al.,* 2004 and Dickson *et al.,* 2011). Section two included the Self-Care Heart Failure Index (SCHFI) v.6.2, 22-item instrument that measures three components of self-care; maintenance, management and confidence (Riegel *et al.,* 2004 *and* Riegel *et al.,* 2008).The self-care maintenance scale consist of (10 items), measures symptom monitoring and treatment adherence. The self-care management scale has (6 items) that measures the ability of patients to recognize and evaluate symptoms of a heart failure exacerbation to implement treatment in response to symptoms and to evaluate treatments. The self-care confidence scale has (6 items) evaluating how confident patients feel in performing self-care. Mean scores ≥ 2 indicated good self-care while mean score <2 indicated poor self-care. Data analysis was performed using SPSS 19 version. Information was summarized using frequency tables and cross-tabulations. The chi-square test was used for associations between variables and self-care of heart failure, P-value of equal or less than 0.05 was considered a statistically significant.

3. RESULTS

Table 1: Distribution of patients by characteristics data

Patients characteristics (n=50)		N (%)
Age group	30-39	13 (26)
	40-49	8 (16)
	50-59	20 (40)
	60-69	9 (18)
Gender	Male	30 (60)
	Female	20 (40)
Level of education	Illiterate	37 (74)
	Primary school	7 (14)
	Secondary school	4 (8)
	University graduated	2 (4)
Marital status	Married	39 (78)
	Widowed	7 (14)
	Divorce	4 (8)
Occupation	High profession	2 (4)
	Unskilled worker	15 (30)
	Housewife	15 (30)
	Unemployed	18 (36)
Family income	Insufficient	28 (56)
	Sufficient	15 (30)
	Exceed need	7 (14)
Residential area	Rural	6 (12)
	Urban	44 (88)
New York Heart Association	Class I	9 (18)
	Class II	16 (32)
	Class III	21 (42)
	Class IV	4 (8)
Hospitalized / year	Yes	39 (78)
	No	11 (22)
Hypertension	Yes	36 (72)
	No	14 (28)
Coronary heart disease	Yes	32 (64)
	No	18 (36)
Diabetes mellitus	Yes	28 (56)
	No	22 (44)

Table 1 revealed that the 50 heart failure patients were assessed. There were 60% male and 40% female with a mean age of 58.07±12.39 age range from (30-69) years most (40%) of them within this range between (50 to 59) years and (74%) were illiterate, in contrast (4%) of them graduated from university and majority of the participants (78%)

was married. Moreover, most of the patients (36%) were unemployed, (56%) of them had insufficient economic status and (88%) of patients came from urban. The severity of heart failure measured according to New York Heart Association (NYHA)[19]. Most of the patients had symptomatic and functionally compromised (NYHA classes II and III). More than three quarters (78%) of the heart failure patients were hospitalized in the last years and the higher proportion (72%) of the patients had the history of hypertension, coronary heart disease (64%) and diabetes (56%).

Table 2: Descriptive statistics for items of the Self-Care Maintenance

Self-Care Maintenance	Never	Sometime	Frequently	Always	Mean Score
	N (%)	N (%)	N (%)	N (%)	
Weigh yourself	28 (56)	17 (34)	3 (6)	2(4)	1.58
Check your ankles for swelling	28 (56)	13 (26)	7 (14)	2 (4)	1.66
Try to avoid getting sick	29 (58)	12 (24)	5 (10)	4 (8)	1.68
Do some physical activity	30 (60)	9 (18)	6 (12)	5 (10)	1.72
Keep doctor or nurse appointments	28 (56)	9 (18)	9 (18)	4 (8)	1.78
Eat a low salt diet	29 (58)	12 (24)	8 (16)	1 (2)	1.62
Exercise for 30 minutes	27 (54)	12 (24)	8 (16)	3 (6)	1.74
Forget to take medicines	31 (62)	11 (22)	5 (10)	3 (6)	1.60
Ask for low salt when eating out	25 (50)	18 (36)	6 (12)	1 (2)	1.66
Family member remember taking pills	21 (42)	9 (18)	14 (28)	6 (12)	2.10

Table 2 Show descriptive analysis of self-care activity among heart failure patients who maintained a good self-care (2.10 scores) in the item "family member remember to taking pills" while they experienced poor self-care maintenance (1.58 scores) in the item regarding weighing themselves.

Table 3: Descriptive statistics for items of the Self-Care Management

Self-Care Management	Not Quickly	Some what Quickly	Quickly	Very Quickly	Mean Score
	N (%)	N (%)	N (%)	N (%)	
Recognize s symptoms of heart failure	11 (22)	30 (60)	8 (16)	1 (2)	1.98
Reduce the salt in your diet	10 (20)	22 (44)	15 (30)	3 (6)	2.22
Reduce fluid intake	14 (28)	21 (42)	14 (28)	1 (2)	2.04
Take an extra water pill	24 (48)	17 (34)	6 (12)	3 (6)	1.76
Call your doctor or nurse for guidance	13 (26)	14 (28)	17 (34)	6 (12)	2.32
Take treatment surely help you	9 (18)	18 (36)	23 (40)	6 (12)	2.28

Table 3: The results show that a high mean score (2.32) of good self-care management had been noted in the item "call your doctor or nurse for guidance" in contrast low mean score (1.76) of poor self-care management had been noted in item "take an extra water pill".

Table 4: Descriptive statistics for items of the Self-Care Confidence

Self-Care Confidence Scale	Not confident	somewhat confident	very confident	extremely confident	Mean Score
	N (%)	N (%)	N (%)	N (%)	
Keep free of heart failure symptoms	10 (20)	32 (64)	6 (12)	2 (4)	1.99
Follow the treatment advice	25 (50)	10 (20)	14 (28)	1 (2)	1.82
Evaluate the importance symptoms	12 (24)	16 (32)	14 (28)	8 (16)	2.04
Recognize changes in your health	14 (28)	13 (26)	17 (34)	6 (12)	1.94
Something relieves your symptoms	17 (34)	17 (34)	12 (24)	4 (8)	1.98
Evaluate how well treatment works	14 (28)	17 (34)	16 (32)	7 (14)	2.12

Table 4: the analysis of the result showed that high score (2.12) had been noted which indicates good self-confidence in the item "Evaluate how well treatment works, but a poor self-care confidence (1.82 scores) had been recorded in the item " follow the treatment advice".

Table 5: Overall scores of self-care activity

Level of self-care	Poor N (%)	Good N (%)
Self-care maintenance	38 (76)	12 (24)
Self-care management	32 (64)	18 (36)
Self-care confident	27 (54)	23 (46)
Total Self-care heart failure	29 (58)	21 (42)

Table 5: This table shows that overall of the score of self-care activity (maintenance, management, and confidence) among heart failure patients. The highest percentages (76%) of patients had poor self-care maintenance consequently, while, the highest percentages (46%) had good self-care confident. As general, (58%) of patients had poor self-care activity more when we compare with (42%) of patients had good self-care activity.

Table 6: Association between selected variables and self-care activity

Patient's Characteristics		Poor self -care N (%)	Good self-care N (%)	P. Value
Age group	30-39	11 (22)	2 (4)	
	40-49	6 (12)	2 (4)	0.039
	50-59	9 (18)	11 (22)	
	60-69	3 (6)	6 (12)	
Gender	Male	14 (28)	16 (32)	0.047
	Female	15 (30)	5 (10)	
Educational level	Illiterate	20 (40)	17 (34)	
	Primary school	6 (12)	1 (2)	0.033
	Secondary school	3 (6)	1 (2)	
	University graduated	1 (2)	1 (2)	
Marital status	Married	23 (46)	16 (32)	
	Widowed	4 (8)	3 (6)	0.94
	Divorce	2 (4)	2 (4)	
Occupation	High professional	1 (2)	1 (2)	
	Unskilled worker	8 (16)	7 (14)	0.64
	Housewife	9 (18)	6 (12)	

Economical status	Unemployed	10 (20)	8 (16)	
	Insufficient	13 (26)	15 (30)	
	Sufficient	13 (26)	2 (4)	0.027
	Exceed need	3 (6)	4 (8)	
Residential area	Rural	2 (4)	4 (8)	0.19
	Urban	27 (54)	17 (34)	
New York Heart Association	Class I	7 (14)	2 (4)	
	Class II	10 (20)	6 (12)	0.027
	Class III	13 (26)	8 (16)	
	Class IV	3 (6)	1 (2)	
Hospitalized in last year	Yes	21 (42)	18 (36)	0.26
	No	8 (16)	3 (6)	
Hypertension	Yes	25 (50)	11 (22)	0.009
	No	4 (8)	10 (20)	
Coronary heart disease	Yes	15 (30)	17 (34)	0.034
	No	14 (28)	4 (8)	
Diabetes mellitus	Yes	15 (30)	13 (26)	0.047
	No	14 (28)	8 (16)	

P-value ≤ 0.05 statistically significant

This table (6) illustrate that there was significant association between some demographic characteristics with clinical data of the total sample and overall self-care with age (P= 0.039), gender (P = 0.047), level of education (P = 0.033) and economic status (P= 0.027), also, there was association between New York Heart Association and self-care activity (P= 0.027). Moreover, there was association between the overall score of heart failure self-care activity and co-morbidities like hypertension (P= 0.009), coronary heart disease (P= 0.034) and diabetes mellitus (P= 0.047) respectively. While there was no significant association between some variables like marital status (P=0.94), occupation (P=0.64) residential area (P=0.19) and the number of hospitalized participants the last year (P =0.26).

4. DISCUSSION

The result of the present study revealed that overall self-care activity was poor. It is supported by the study that shows self-care of heart failure among Italian sample was the lowest score (Cocchieri *et al.,* 2015). Regarding self-care maintenance, particularly problematic in weight and ankle swelling monitoring, exercise and salt restriction. Instead, patients were better in self-care maintenance behaviors in keeping doctor/nurse

appointments and taking medicines. It agrees with the study carried out in fifteen countries worldwide showed that in some populations, such as Mexicans living in the south-western USA, Brazilians, and Chinese from Hong Kong, weight monitoring was performed by less than 20% of patients also exercise and salt restriction was low in all the populations studied (Jaarsma *et al.,* 2013), and another study clearly showed that patients might find it easier to take medicines than to change their lifestyles (Welstand *et al.,* 2009).Concerning the self-care management most of the patients who had symptoms of a heart failure exacerbation in the last month were unable to recognize their symptoms and a study reported a poor symptom recognition is an issue in this population because symptom recognition is the first step to implementing a treatment to stabilize the illness and reduced hospitalization, also its agreement with this study that in response to symptoms, few of patients were seeking symptoms(Vellone *et al.,* 2013). Moreover, its similar to this study that reported poor regarding the aspect related to requesting help is associated with recognizing the symptoms and the need for consultation before the symptoms worsen (Spencer *et al.,* 2004 and Vellone *et al.,* 2013). Concerning self-care confidence, in the ability to keep free of heart failure symptoms was the lowest item in the confidence scale among the sample, it is consistent with the findings that majority of patients reported difficulties recognizing symptoms of a heart failure exacerbation, patients are not educated about the importance of monitoring their symptoms so that patients recognize early changes, heart failure is out of their control and lead to lack confidence in their ability to control the illness (Riegel *et al.,* 2009).Older age was a determinant of worse self-care activity the study findings agree with this study revealed that older people had poor self-care activity a possible explanation of this finding is that older people might be more cognitively impaired, which may challenge their self-care abilities, even though it has been shown that caregiver support may improve self-care, the finding of present study disagree with this study that revealed that patients reporting having a caregiver were more functionally compromised and were more cognitively impaired and so in need of more self-care activity (Tung *et al.,* 2012). The study showed that the influences of gender on self-care were significantly associated with males and females exhibited equal medical adherence (Riegel et *al.,* 2010), also, this study found that patients who had heart failure for a short period of time and illiterate people exhibited poor self-care activity, this result agree with study finding had shown patients

who are knowledgeable about heart failure disease and educated tend to adhere better to treatment (Riegel et *al.,* 2011). Also found that most patients who had heart failure for a longer time and much more hospitalized would be better in recognizing heart failure symptoms and more adherence treatments (Kato *et al.,* 2009). Moreover, this study showed one determinant of poor self-care was being unemployed was supported by the study that found significant poorer self-care behaviors in heart failure patients who are unemployed (Dickson *et al.,* 2008). Furthermore, this result revealed that higher New York Heart Association(NYHA) class worse self-care activity, these findings agree with this study that found patients with higher NYHA class were poor self-care (Dickson *et al.,* 2013). Also, the current study shows that most of the patients had co-morbidity, it agrees with study found that the patients had numbers of co-morbidity who suffer from several illnesses and they had few co-morbid conditions perform better self-care maintenance and management (Kato *et al.,* 2009 and Dickson *et al.,* 2013).

5. CONCLUSION

The present study showed that higher proportion of heart failure patients were older age, male, illiterate, unemployed, low family income, most of them hospitalized in last years, the majority of them had symptomatic and functionally compromised (New York Heart Association NYHA classes II and III) and had co-morbidity. There was a significant association between heart failure self-care activity and (age, gender, level of education, family income, New York Heart Association and co-morbidities). Overall the results of this study provide a picture of self-care activity was poor.

6-RECOMMENDATIONS

Nurses should apply a standard guideline to improve self-care activity of heart failure patients; health education for heart failure patients had played the crucial role in managing their disease. Further studies are needed to identify factors are associated with poor self-care and integrated qualitative study to gain deeper insight into each factor to finding methods for improving self-care.

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