Physical and Psychosocial aspects for patients with Heart Failure

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Abstract:

A descriptive study used to find the relationship between physical and psychosocial aspects and heart failure. The study was carried out during the period from (October 2013 to May 2014). The study aims to find out Physical and psychosocial aspects for patients with heart failure in Al-Sadder medical city, in the ICU and CCU units, to identify the relationship between the physical and psychosocial aspects for heart failure. A purposive sample of (30) patient in the ICU and CCU units in Al- Sadder medical city in Al – Najaf Al – Ashraf Governorate. The data were collected through used of questionnaire was developed and modified by researchers format of viewing with patient that available in the ICU and CCU units. The questionnaire consisted of three major part, the first part was concerning Sociodemographic characteristics, consisted of (9) items, the second part of the questionnaire was comprised of (10) items that related to disease distribution characteristics and clinical manifestations, the last part concerning about the physical and psychosocial aspects and this part have (47) item. The validity through reviewing the questionnaire by a panel study of (9) experts. The data were analyze through the application of descriptive statistical analyze include (frequency & percentage) and the application of inferential statistical analyze that include (person correlation coefficient and Chi-square).

The finding of the present study indicate that there is highly significance for physical domain with the age, marital status, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration, Cardiomyopathy and Pneumothorax. Also highly significance for psychological domain with the age, marital status, and level of education, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration and Cardiomyopathy.

The study confirms that the heart failure most commonly occur in elderly people over (38) years of age. Heart failure occurs almost equally between male and female, rural and urban, married and widowed. The study confirms that the heart failure occur in high percentage of illiterate retires have no enough income in An Najaf Al Ashraf. The study indicates that the majority of the study sample have chronic heart failure, most of them diagnosed since over (2) years and over.The study confirms that the heart failure most commonly complications progress was high percentage for cardiomyopathy then pulmonary hypertension then hepatomegaly then pneumothorax. The Overall assessment of physical and psychosocial domains of heart failure patients' quality of life in al-Sadder medical city which are high percentage for poor in physical domain of quality of life (73.3%) also there is a high percentage for poor in psychosocial domain (63.3%), which mean failing in these domains of heart failure patients' quality of life. The study recommends that an intensive comprehensive wide population based studies be conducted to assess the physical and psychosocial aspects of people with heart failure. Moreover, health oriented mass media approach could be employed by the ministry of health to increase people's knowledge and awareness of heart failure and how we can prevent and managed it.

Key wards: Physical, Psychological aspect, Patient, Heart failure.

Introduction

Heart failure (HF) is a syndrome that occurs as a result of the progressive inability of the heart to pump enough blood to meet the body's oxygen and nutrient needs. It can cause decreased tissue perfusion, fatigue, fluid volume overload in the intravascular and interstitial spaces, and reduced quality and length of life. (Williams & Hopper, 2003). However, causes of HF are varied and may include coronary artery disease (most often), myocardial infarction, cardiomyopathy, heart valve problems, and hypertension. Hence, any heart problem may potentially lead to HF. In addition, in elderly, the most common cause of HF is cardiac ischemia. It may develop rapidly (acute), as with cardiogenic shock and pulmonary edema, or over time (chronic) as a result of another disorder, such as hypertension or pulmonary disease.(Williams & Hopper, 2007).

The incidence of heart failure is increasing as the elderly HF is a burgeoning problem worldwide, with more than 20 million people affected. The overall prevalence of HF in the adult population in developed countries is 2%. HF prevalence follows an exponential pattern, rising with age, and affects 6–10% of people over the age of 65. Although, the relative incidence of HF is lower in women than in men, women constitute at least half of the cases of HF because of their longer life expectancy. (Fauci's,et.al,2008)

However, the economic burden caused by HF is estimated to be more than 25 billion dollars in direct and indirect costs and is expected to increase (Smeltzer,et.al, 2008). According to the American Heart Association, heart failure is the most common reason for hospital admission in the older adult. The patient may experience many functional limitations and symptoms, and there is a high mortality rate. Quality of life is often impaired. Readmissions rate to hospitals soon after discharge of heart failure treatment are high and pose a challenge for health-care providers. (Williams & Hopper, 2007).

Furthermore, it is essential for people to have a comprehensive knowledge about the typical causes, clinical manifestation, risk factor, complication of the heart failure and know the physical and psychosocial aspects and who these aspects effect on the patient lifestyle (the researchers). Heart failure is a frequent cause for both acute hospital and long stay residential care admissions, indeed it is the most common discharge diagnosis from hospitals in the developed world in people over the age of 65, and the second most common overall. (David A. Warrell,et.al,2003)

HF is a highly prevalent disorder, afflicting approximately 6 million individuals in the United States with an incidence of 10 per 1000 population after the age of 65 years.1 Nearly 300,000 Americans are diagnosed with heart failure annually and, although overall survival has improved over time, the mortality remains high, as approximately 50% of patients die within 5 years from initial diagnosis. (Saltzman HE,2013).

The prevalence rate of HF among non-Hispanic whites 20 years of age or older is 2.3% for men and 1.5% for women; for non-Hispanic blacks, the rates are 3.5% and 3.1%, respectively .The rise in the incidence of HF reflects the increased number of elderly and improvements in treatment of HF resulting in increased survival rates. Many hospitalizations could be prevented by improved and appropriate outpatient care. Prevention and early intervention to arrest the progression of HF are major health initiatives in the United States. (Smeltzer,et.al, 2008).

In Al-Sadr medical city the percentage of death due to heart failure disease and its complications was very high in the year of 2013 which reached to be 33.69% (statistical department in Al-Sadr medical city) as depicted in Figure 1.
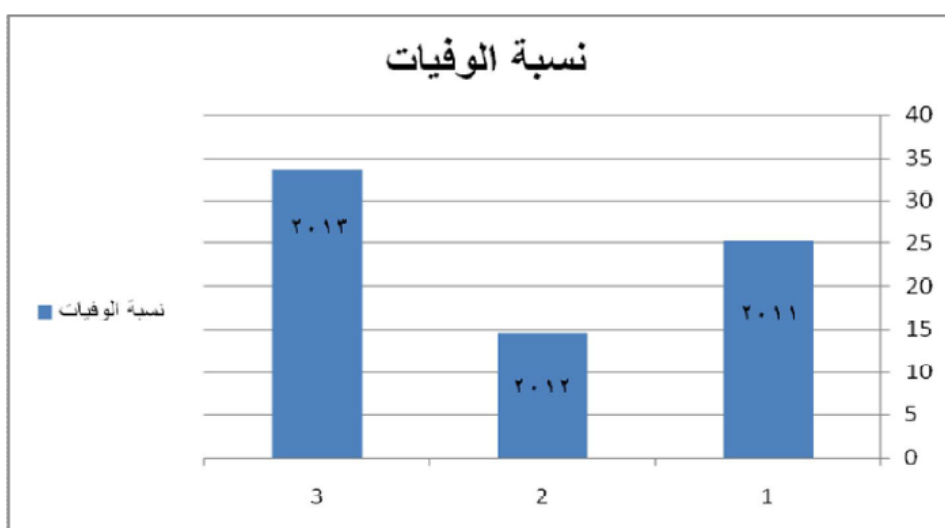
Figure 1. Death Percentage in Al-Sadr Medical City in Last Three Years.

1- 2011 (25.23%)   2- 2012 (14.48%)   3- 2013 (33.69%)

Methodology:

Study Design:

A descriptive study designed to find the relationship between physical and psychosocial aspects of patients with heart failure diseases. The study was carried out during the period from (October 2013 to May 2014).

Setting of the Study:

The study conducted in Al – Sadder medical city at An Najaf Al Ashraf Governorate.

The Sample of the Study:

A purposive sample of (30) patients in the Intensive Care Unit (ICU) and Cardiac Care Unit (CCU) who is suffering from Heart failure.

The Study Instrument:

A questionnaire was developed and modified by researchers for the present study to measure the physical and psychosocial aspects of patients with heart failure.

The questionnaire consisted of three major part: **Part 1: Sociodemographic Data Form:** A sociodemographic data sheet, consisted of (9) items, which included Age, Gender, Residence, Level of education, Occupation, Marital status, socio-economic status.

Part 2: Medical Data Form: The second part of the questionnaire was comprised of (10) items that related to disease distribution characteristics (disease state, disease

period and complications). **Part 3: Main Domains of the Studied Phenomena Form:** The third part of the questionnaire is comprised of (2) major parts which include (47) item that concerned with the physical and psychosocial aspects.

Data Collection:

The collection of data was utilized of the developed questionnaire and by means of structured interview technique with the subjects who was individually interviewing in Cardiac

Care Units & Intensive Care Units by the using of Arabic version of the questionnaire and they was interviewing in a similar way, in the same place, by the same questionnaire for all those subjects who was included in this study.

Statistical data analysis:

Data are analyzed through the use of statistical package of social sciences (SPSS) (version 10). The statistical procedures, which are applied for the data analysis and assessment of the results, included the following:

a. Descriptive statistics

- Frequencies (F),
- Percentages (%),

$$\% = \frac{Frequencies}{Sample\ size} \times 100$$

b. Inferential Statistics:

- correlation .
- chi – square

The formula for Contingency Coefficient is:

$$CC = \sqrt{\chi^2 \big/ (\chi^2 + n)}$$

Results :
Table (1): Distribution of heart failure patients in al-Sadder medical city bytheir demographic characteristics

Demographic Data	Groups	Frequency	Percent	Cumulative
Age / Years	<= 37	1	3.3	3.3
	38-49	7	23.3	26.7
	50 – 61	8	26.7	53.3
	62 - 73	7	23.3	76.7
	74+	7	23.3	100
Gender	1	16	53.3	53.3
	2	14	46.7	100
Residency	1	15	50	50
	2	15	50	100
Marital Status	1	1	3.3	3.3
	2	14	46.7	50
	3	14	46.7	96.7
	4	1	3.3	100
Levels of Education	1	16	53.3	53.3
	2	5	16.7	70
	3	3	10	80
	4	2	6.7	86.7
	5	1	3.3	90
	6	3	10	100
Occupational Status	1	1	3.3	3.3
	2	4	13.3	16.7
	3	4	13.3	30
	4	6	20	50
	5	15	50	100
Socio-Economic Status	1	4	13.3	13.3
	2	26	86.7	100

Table (1) refers that most of heart failure patients in al-Sadr medical city are over (38) years of age (96.7%), the study sample are distributed almost equally between male and female, rural and urban, married and widowed, the high percentage of study sample are illiterate retires and have no enough income.

Table (2): Distribution of heart failure patients in al-Sadr medical city by their clinical data

Clinical Data		Rating	Frequency	Percent	Cumulative Percent
Disease Type		1	24	80	80
		2	6	20	100
Duration Of Disease		<= 1	4	13.3	13.3
		2 - 4	17	56.7	70
		4+	9	30	100
Complications	Cardiomyopathy	1	27	90	90
		2	3	10	100
	Pulmonary Hypertension	1	21	70	70
		2	9	30	100
	Pneumothorax	1	15	50	50
		2	15	50	100
	Air Embolism	1	8	26.7	26.7
		2	22	73.3	100
	Hepatomegaly	1	19	63.3	63.3
		2	11	36.7	100
	Renal Failure	1	8	26.7	26.7
		2	22	73.3	100
	Myocardial Infarction	1	13	43.3	43.3
		2	17	56.7	100

This table refers that (80%) of study sample have chronic heart failure, most of them(86.7%) diagnosed since over (2) years and over, the high percentage in heart failure complications progress was for cardiomyopathy (90%), pulmonary hypertension (70%), hepatomegaly (63.3%) and pneumothorax (50%).

Table (3): Overall assessment of physical and psychosocial domains of heart failure patients' quality of lifein al-Sadr medical city

Main domains	Rating	Frequency	Percent	Cumulative Percent
Physical	Good	2	6.7	6.7
	Fair	6	20	26.7
	Poor	22	73.3	100
	Total	30	100	
Psychological	Good	1	3.3	3.3
	Fair	10	33.3	36.7
	Poor	19	63.3	100
	Total	30	100	

This table shows that the high percentage was for poor in physical domain of quality of life (73.3%) also there is high percentage for poor in psychosocial domain (63.3%), which mean failing in these domains of heart failure patients' quality of life (the researcher).

Table (4): relationship between physical domain of quality of life for heart failure patients and their demographic and clinical data

Demographic and clinical data	Rating	Physical Domain			Sig.
		Good	Fair	Poor	
Age / years	<= 37	1	0	0	C.C. 20.227 d.f = 8 p-value = 0.01 HS
	38 - 49	0	3	4	
	50 - 61	1	0	7	
	62 - 73	0	2	5	
	74+	0	1	6	
Gender	1	1	3	12	χ2=0.049 d.f= 2 p-value = 0.976
	2	1	3	10	
Residency	1	1	4	10	χ2=0.848 d.f= 2 p-value = 0.654
	2	1	2	12	
Marital status	1	0	1	0	χ2=19.481 d.f= 6 p-value = 0.003 HS
	2	1	3	10	
	3	0	2	12	
	4	1	0	0	
Level of education	1	0	2	14	χ2=9.561 d.f= 10 p-value = 0.48
	2	1	1	3	
	3	0	1	2	
	4	0	1	1	
	5	0	0	1	
	6	1	1	1	
Occupational Status	1	1	0	0	χ2=21.621 d.f= 8 p-value = 0.006 HS
	2	1	2	1	
	3	0	1	3	
	4	0	1	5	
	5	0	2	13	
Socioeconomic Status	1	1	2	1	χ2=5.874 d.f= 2 p-value = 0.053 HS
	2	1	4	21	
Disease	1	0	3	21	χ2=14.659 d.f= 2 p-value = 0.001 HS
	2	2	3	1	
Duration	<= 1	2	2	0	C.C.=18.871 d.f= 4 p-value = 0.001 HS
	2-4	0	2	15	
	4+	0	2	1	
Cardiomyopathy	1	0	5	22	χ2=20.741 d.f= 2 p-value = 0.00
	2	2	1	0	

					HS
Pulmonary	1	1	3	17	$\chi 2=2.078$ d.f= 2 p-value = 0.354
	2	1	3	5	
Pneumothorax	1	0	1	14	$\chi 2=6.303$ d.f= 2 p-value = 0.043 HS
	2	2	5	8	
Air emboli	1	0	1	7	$\chi 2=1.333$ d.f= 2 p-value = 0.514
	2	2	5	15	
Hepatomegaly	1	0	3	16	$\chi 2=4.750$ d.f= 2 p-value = 0.093
	2	2	3	6	
Renal failure	1	0	0	8	$\chi 2=3.967$ d.f= 2 p-value = 0.138
	2	2	6	14	
M.I	1	0	2	11	$\chi 2=2.172$ d.f= 2 p-value = 0.338
	2	2	4	11	

This table refers highly significance for physical domain with the age, marital status, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration, Cardiomyopathy and Pneumothorax.

Table (5): Relationship between psychosocial domain of quality of life for heart failure patients and their demographic and clinical data

Demographic and clinical data	Rating	Physical Domain			Sig.
		Good	Fair	Poor	
Age (Binned)	<= 37	1	0	0	C.C. = 30.891 d.f=8 p-value = 0.00 HS
	38 - 49	0	3	4	
	50 - 61	0	2	6	
	62 - 73	0	3	4	
	74+	0	2	5	
Gender	1	0	6	15	$\chi 2=3.534$ d.f=2 p-value = 0.171
	2	1	4	4	
Residency	1	0	4	11	$\chi 2= 1.87$ d.f=2 p-value = 0.392
	2	1	6	8	
Marital status	1	0	1	0	$\chi 2=36.124$ d.f=6 p-value = 0.00 HS
	2	0	7	10	
	3	0	12	12	
	4	1	0	0	
Level of education	1	0	2	14	$\chi 2=21.439$ d.f=10 p-value = 0.018 HS
	2	0	3	2	
	3	0	1	2	
	4	0	2	0	

	5	0	0	1	
	6	1	2	0	
Occupational Status	1	1	0	0	χ2=38.326 d.f=8 p-value = 0.00 HS
	2	0	3	1	
	3	0	3	1	
	4	0	1	5	
	5	0	3	12	
Socioeconomic Status	1	1	3	0	χ2=11.827 d.f=2 p-value = 0.003 HS
	2	0	7	19	
Disease chronicity	1	0	5	19	χ2=14.375 d.f=2 p-value = 0.001 HS
	2	1	5	0	
Disease duration (Binned)	<= 1	1	3	0	C.C. 12.086 d.f=4 p-value = 0.017 HS
	2-4	0	4	13	
	4+	0	3	6	
Cardiomegaly	1	0	8	19	χ2=12.222 d.f=2 p-value = 0.002 HS
	2	1	2	0	
	2	1	3	5	
Pneumothorax	1	0	3	12	χ2=3.916 d.f=2 p-value = 0.141
	2	1	7	7	
Air emboli	1	0	2	6	χ2=0.825 d.f=2 p-value = 0.662
	2	1	8	13	
Hepatomegaly	1	0	5	14	χ2=3.369 d.f=2 p-value = 0.185
	2	1	5	5	
Renal failure	1	0	1	7	χ2=2.790 d.f=2 p-value = 0.248
	2	1	9	12	
M.I	1	0	3	10	χ2=2.158 d.f=2 p-value = 0.34
	2	1	7	9	

This table refers highly significance for psychological domain with the age, marital status, and level of education, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration and Cardiomyopathy.

Discussion:

Part:1: Discussion of the demographic characteristics' related to the heart failure patients in al-Sadder medical city: table (1):

The most of heart failure patients in al-Sadder medical city are over (38) years of age (96.7%). The study sample are distributed almost equally between male and female, rural and urban, married and widow, the high percentage of study sample are illiterate retires have no enough income. Our study indicates that the target population of heart failure in the study setting is the adults between (38-65) years old which clearly make a unconstructive effect in the society (the researcher).

Part:2: Discussion of the clinical data related to the heart failure patients in al-Sadder medical city: table (2)

About (80%) of study sample have chronic heart failure, most of them(86.7%) diagnosed since (2) years and over, the high percentage in heart failure complications progress was for cardiomyopathy (90%), pulmonary hypertension (70%), hepatomegaly (63.3%) and pneumothorax (50%), these complications need a further managements and arrangements which its obviously not found in our health institutions (the researcher).

Part:3: Discussion Overall assessment of physical and psychosocial domains of heart failure patients' quality of life in al-Sadder medical city: table (3)

The high percentage was for poor in physical domain of quality of life (73.3%) also there is high percentage for poor in psychosocial domain (63.3%), which mean failing in these domains of heart failure patients' quality of life (the researchers).

Part:4: Associations between physical domain of quality of life for heart failure patients and their demographic and clinical data: table (4)

The highly significance for physical domain with the age, marital status, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration, Cardiomyopathy and Pneumothorax.

Part:5: Associations between psychosocial domain of quality of life for heart failure patients and their demographic and clinical data: table (5)

The highly significance for psychological domain with the age, marital status, and level of education, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration and Cardiomyopathy.

Conclusions:

According to the result of present study, the researcher can make the following conclusions:

1. The study confirms that the heart failure most commonly occur in elderly people over (38) years of age.
2. Heart failure occurs almost equally between male and female, rural and urban, married and widow.
3. The study confirms that the heart failure occur in high percentage of illiterate retires have no enough income in An Najaf Al Ashraf.
4. The study indicates that the majority of the study sample have chronic heart failure, most of them diagnosed since over (2) years and over.
5. The study confirms that the heart failure most commonly complications progress was high percentage for cardiomyopathy then pulmonary hypertension then hepatomegaly then pneumothorax.
6. The study indicate that the majority of the study sample was high percentage for poor in physical domain of quality of life, also there is high percentage for poor in psychosocial domain, which mean failing in these domains of heart failure patients' quality of life.
7. The study indicate that the study sample was highly significance for physical domain with the age, marital status, Occupational Status, Socioeconomic Status, Disease chronicity, Disease duration, Cardiomyopathy and Pneumothorax, The study indicate that the study sample was highly significance for psychosocial domain with the age, marital status, and level of education, OccupationalStatus, SocioeconomicStatus, Disease chronicity,Disease duration and Cardiomyopathy.

Recommendations:

Base on the result of the present study the researchers recommended the following:

1. Intensive comprehensive wide population-based studies are conducted to assess the physical and psychosocial aspects of persons with heart failure.

2. Health oriented mass media approach should be employed by the ministry of health to increase population knowledge and awareness of heart failure and how we can prevent, managed its.

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