TREATMENT AND QUALITY OF LIFE OF HEART FAILURE PATIENTS

MUGAHED AL-KHADHER, IMAD FADL-ELMULA & WALED AMEN MOHAMMED AHMED

ABSTRACT

Background: Heart failure is known to decrease the quality of life, especially in non-compliance patients with regards to medications and life style changes.

Objective: The present study aimed to determine the level of compliance to treatment and quality of life of Sudanese patients with heart failure.

Methods: This descriptive study was conducted on 76 patients with heart failure admitted to the Sudan Heart Institute. Demographic and clinical data including the compliance (medication, sodium restriction, fluid restriction, daily weights, exercises, and appointment-keeping) were collected. The quality of life was measured using the Minnesota living with heart failure Questionnaire. The data were collected from all patients and the analyzed using SPSS version 22 software.

Results: Heart failure patients showed low compliance ranged between 11.84% and 75% of which the highest compliance was to medication (75%) followed by the follow-up appointments (71.05%), and the lowest compliances were to the fluids restrictions (11.84%), the weight monitoring (17.10%), regular exercise (21.05%), and the sodium restriction (27.6%). Quality of life score ranged between 62-97 score and the Mean (SD) 83.6 (7.82) which reveled of poor quality of life in most of Sudanese patients with heart failure involved in the present study.

Conclusion: The study showed that patients with heart failure in Sudan have low compliance to treatment and poor quality of life.

KEY WORDS: Heart Failure, Treatment Compliance, Quality of life, Sudan

INTRODUCTION

Heart failure incidence increases with age, increase from approximately 20 per 1000 individuals with age 65 to 69-year-old to more than 80 per 1000 individuals aging 85-year-old. In fact few epidemiological data on heart failure in Sudan exists and the recognition of the disease as a major health issue remains questionable, the

prevalent of heart failure accounts for 2.5% of the population, and hence it is one of the major causes of hospital mortality.

The WHO defined adherence as extent a person's behavior –taking drugs, following a diet, and/or executing lifestyle modifications, follow the agreed recommendations from a health care providers . Poor compliance "noncompliance" usually refers to patients' failure to follow health interventions as recommended by the health care provider, but it can also refer to the providers' failure to act according to practice guidelines or standards of care. The factors affecting the compliance could be divided into patient-related factors, regimen-related factors, and health care providers-related factors .

Non-compliance to medications and diet contributes in many cases to worsening heart failure symptoms. The compliance to prescribe medications or other caregivers recommendations such as lifestyle changes is a widely acknowledged problem leading to hospitalization ((6-8). The non-compliance of HF patients is a major problem and remains to be a continuous source of concern for patients. It is mainly for diet and fluid, daily weight and exercises.

Quality of life (QOL) is defined as the individual's unique cognition and a way to express feelings about his/her health status(10).Moreover, QOL is a good predictor of mortality and the need for hospitalization (11-13). Patients in class II and III heart failure of New York Heart Association (NYHA) classification cannot normally do their daily activities.

Although, several studies on compliance of HF patients and their quality of life have been performed worldwide, to our knowledge this is the first ever study conducted in Sudanese HF patients, aimed to assess the compliance to treatment and quality of life in Sudanese patients with heart failure.

MATERIALS AND METHODS

This descriptive study was conducted on 76 patients with heart failure admitted to the Sudan Heart Institute. A total of 76 Sudanese HF patients were randomly selected from Sudan Heart Institute in Khartoum, January-March 2014. The patients participated were above 20 years, confirmed diagnosed as heart failure by the cardiologist at least a month, already start HF treatment, in class II or III heart failure of NYHA, and with ability to communicate.

The questionnaire consists of 36 questions of which 10 for demographic and clinical data, 5 questions for compliance, and 21 questions for quality of life. Demographic and clinical data were collected from medical records and/or by interviews. The demographic data included age, gender, educational level, and marital status, whereas clinical variables include left ventricular ejection fraction (EF), previous hospitalization in the past three months, and duration of HF.

Revised HF Compliance Questionnaire was used (14), on a five-point scale (1='never'; 2= seldom; 3= half of the time; 4 =mostly; 5='always'). the participant's compliance to medications, diet, fluid restriction, exercise, weight, and appointment keeping was evaluated by asking patients to rate their compliance of the last week (drugs, diet modifications, fluid restriction, and exercises), the last month (daily weighing), and the last 3 months (appointment keeping) before hospitalization. The patients were divided into two groups; either compliant or noncompliant (16-19). Patients were considered 'overall compliant' the compliance with four or more of the six recommendations.(20) (Table 2).

The quality of life data were collected and measured using the Minnesota Living with Heart Failure Questionnaire after translated to Arabic language. This instrument used most widely to evaluate quality of life in research studies (21-24) .Which Contains 21 questions and overall score of 105 (5x21) with possible answers ranging from 0 (no) to 5 (very much), (0= no; 1= Very Little ; 2= little: 3= moderate; 4= much; 5= very much). The final score is the sum points obtained for the 21 questions; it can therefore vary between 0 and 105. It evaluates how heart failure affects patients 'physical (8 questions), emotional (5 questions), and socioeconomic (8 questions) dimensions. The sum of responses reflects the overall effects of heart failure and treatments on individual's quality of life.

Data was presented using descriptive statistics including frequency, percentage, mean with standard deviation (SD) and P-value of ≤0.05 was considered statistically significant for relationship investigations. Ethical approval was obtained from Al Neelain Ethical committee at Al Neelain University. All patients signed an informed consent before participate in the study.

RESULTS

The study showed that out the 76 patients, 63.2% were male and 36.8% were female; the mean age was 61.4 ±13.5 years. The education levels were 34.2% of patients were illiterate, 32.9% had completed primary school, 19.7% secondary school, and 13.2% had university graduation (Table 1).

Although the vast majority of the patients were chronic patients with diagnosis for more than 5 years, the participant ask to define what is the heart failure? Only 24% had basic conscious about their disease, the remaining 76% of patients had no idea what the heart failure is. Overall compliance among the patients was 28.95%, whereas 71.5% of the patients were classified as non-compliant. Of those compliance with medication was 75% and 70% compliance with appointment-keeping. In general most patients showed low compliance with diet restriction (27%), exercise (21%), weighing (17%), and fluid restriction (11%) (Table2).

The quality of life data showed that poor quality of life, the score ranged from 62-97 score /105, and the Mean (SD) quality of life was 3.2 (1.3) which reveled of poor quality of life in most of Sudanese patients with heart failure involved in the present study .There is statistically significant in compliance and quality of life (p value= 0.002) in compression with patients who is noncompliant. Also statistically significant with improved NYHA classification, LVEF and quality of life (p<0.001), others demographic and clinical data showed statistically insignificant

(Table 3).

(Table.1): Demographic and clinical variables of the study population (n=76) in Sudan.

Characteristic		Frequency%	
Age (years SD)	Mean (SD)		61.4 ±13.5
Sex	Male	48	63.2%
	Female	28	36.8 %
Marital status	Married	55	72.4%
	Single	8	10.5%
	Widowed	11	14.5%
	Divorced	2	2.6%
Employment Status	Employed	27	35%
	Unemployed	38	50.5%
	Retired	11	14.5 %
Educational Level	Non	26	34.%
	Primary	25	232.9%
	Secondary	15	19.7%
	University/college	10	13.2%
Duration Of Disease	Less than one year ago One to three year ago	38	50.0%
		30	39.47%
	Four years and above ago	8	10.5 %
NYHA class	Class II	38	55.0 %
	Class III	33	43.4%
	Class IV	5	6.6 %
Ejection Fraction	mean (SD)	37 ±14	
Previous HF Emergency admission	No admission	21	27.6%
	One admission	29	38.2 %
	>1	26	34.2 %

(Table.2)

Compliance (Medications, diet, Fluid restriction, Exercise, weight, and appointments keeping) in Sudan.

How often	Compliant	Non-compliant
1.Do you take your medications exactly as directed?	(75%) 57	25%) 19
2.Do you weigh yourself daily? Or at least three times/week?	(17.10 %) 13	(82.89%) 63
3.Do you follow a low sodium diet?	(27.63%) 21	(72.36 %) 55
4.Do you avoid drinking excess fluids?	(11.84%) 9	(88.15 %) 67
5.Do you get regular exercise?	(21.05)% 16	(78.9%) 60
6.Do you Keep follow-up appointments?	(71.05) % 54	(28..9%) 22

(Table.3)

Quality of life of heart failure patients in Sudan (N=76)

Quality of life items	Mean	Std. Deviation
Causing swelling in your ankles or legs?	3.8026	1.11976
Making you sit or lie down to rest during the day?	3.5395	1.47369
Making your working around the house or yard difficult?	3.5132	1.21648
Making your going places away from home difficult?	3.8421	1.49713
Making your sleeping well at night difficult?	3.5395	1.30067
Making your relating to or doing things with your friends or family difficult?	3.8421	1.37649
Making your working to earn a living difficult?	3.6974	1.39542
Making your recreational pastimes, sports or hobbies difficult?	4.2368	1.00490
Making your sexual activities difficult?	4.5658	.86926
Making you eat less of the foods you like?	3.9737	1.49643
Making you tired, fatigued, or low on energy?	4.5263	1.02598
Making you stay in a hospital?	3.9079	1.23480
Costing you money for medical care?	4.1316	1.19267
Giving you side effects from treatments?	4.2895	.97729
Making you feel a loss of self-control in your life?	4.0395	1.18255
Making you worry?	4.2895	1.16408

Making your walking about or climbing stairs difficult?	4.0658 1.35976
Making you tired, fatigued, or low on energy?	4.1447 1.16280
Making you feel you are a burden to your family or friends?	3.9737 1.35621
Making it difficult for you to concentrate or remember things?	3.8553 1.50292
Making you feel depressed?	3.8553 1.19671
Mean ±SD	**3.2±1.3**

DISCUSSION

The patients' compliance in this study ranged between 11.84% and 75% of the patients. Although the differences in measurement instruments and differences in interventions, the result of the this study showed low compliance compared with other previous studies including knowledge of the patients about their illness, the hazard of high salt consumption, and the daily weighing.

Study done by Baghianimoghadam MH**,** et al, reported that the disease knowledge in Iranian patients reached 38%, whereas our result showed that 76% of HF Sudanese Patients lack essential knowledge of their disease or what the heart failure is. According to definition of 'overall compliance (16).The overall patients' compliance of the present study was 28% compared with the study conducted by van der wal in which the overall compliance reached 72% of patients with HF(16). In the same study compliance with medication (98.6%), appointment keeping, salt restriction (79%), fluid restriction (73%), exercise (39%), and weighing (35%) where all higher compared with the results of the present study(16). Also the compliance level of present study is lower than Evangelista study which found higher levels of compliance more than 90% for (follow-up appointments, medications, smoking, and alcohol cessation), low compliance dietary 71% and exercise recommendations 53% (17). Medication compliance in the present study result is similar to the study done by kamlovi yayhd which found 74.7% that compliance to medication . This may be a reflection of lack of knowledge and training programs offered to HF patients in Sudan.

The Minnesota living with heart failure questionnaire (MLWHFQ) showed that poor quality of life, the score ranged between 62-97 score /105, and the Mean (SD) quality of life was 83.6 (7.82) which reveled of poor quality of life in most of Sudanese patients with heart failure involved in the present study .

It was also found that no correlation between age and quality of life (p value =0.925) , some studies found association between age and quality of life . We did not observe sex differences in quality of life (p value =0.99), which similar to study done by Heo S, et al 2007 But other studies have reported quality of life worse in female (30;31).

Also we found marital status had no influence on QOL in our subjects (p value =0.34) , it is lower to study done by Luttik ML, which found differences in QoL between married patients and those living alone were most pronounced with regard to future expectations of QoL (6.5 vs 5.0, P=.00 (32).

Our study shows there is statistically significant in duration of disease with QOL (p value =0.004), Also statistically significant with improved NYHA classification, LVEF and Quality of life (p<0.001). This might be explained, partly, by the sedentary life style because of HF mostly effect elder people ,lack of awareness of the importance of physical exercise, a culture that discourages physical exercise especially for females, the absence of safe public places where one could go walking and the hot of the weather in Sudan.

In this study, the researcher found that total compliance was poor for HF Sudanese patients, compliance for drugs and appointments keeping were high but still in an unacceptable level. Compliance with diet, fluid restriction, activity and daily weighing was low. Also the study revealed that non-compliance negatively affects the quality of life of Sudanese HF patients. Based on result of present study, education and counseling are extremely needed to increased patients-knowledge about their disease, leading to more compliance and improvement of their quality of life.

REFERENCES

1. Lewis EF, Johnson PA, Johnson W, Collins C, Griffin L, Stevenson LW. Preferences for quality of life or survival expressed by patients with heart failure. J Heart Lung Transplant. 2001

2. Juenger J, Schellberg D, Kraemer S, Haunstetter A, Zugck C, Herzog W, Haass M. Health related quality of life in patients with congestive heart failure: Comparison with other chronic diseases and relation to functional variables. Heart. 2002

3. van Jaarsveld CH, Sanderman R, Miedema I, Ranchor AV, Kempen GI. Changes in health-related quality of life in older patients with acute myocardial infarction or congestive heart failure: A prospective study. J Am Geriatr Soc.

4. Dixon T, Lim LL, Oldridge NB. The MacNew heart disease health-related quality of life instrument: Reference data for users. Qual Life Res. 2002

5. Riedinger MS, Dracup KA, Brecht ML. Quality of life in women with heart failure, normative groups, and patients with other chronic conditions. Am J Crit Care. 2002

6. Grady KL, Jalowiec A, White-Williams C, Pifarre R, Kirklin JK, Bourge RC, Costanzo MR. Predictors of quality of life in patients with advanced heart failure awaiting transplantation. J Heart Lung Transplant. 1995