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Fatigue and the Quality of Life among Patients with Heart Failure

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Abstract:
Fatigue is an important symptom caused by heart failure that can be as a complaint debilitating and effect negatively on patients' quality of life and often goes unnoticed by the health care team. ***Objectives:*** the current study is conducted to assess patients for fatigue after heart failure, assess patients' quality of life (physical and level of independence domains) after heart failure, and determine the correlation between fatigue and the quality of life. ***Methods:*** This quantitative correlational study was performed on 65 patients with heart failure who were selected purposively. The study was conducted in Al-Najaf Center for Cardiac Surgery and Trans Catheter Therapy. The study begins from13/ 8/ 2020 to 15/ 6/ 2021. Data collection tools were Fatigue Severity Scale (FSS) and Minnesota Living with Heart Failure Questionnaire (MLHFQ). Data were analyzed using SPSS software, descriptive and inferential statistics. ***Results:*** The study results indicate that 87.7 % of patients suffered from severe fatigue. And 72.3% of patients live with a low quality of life. Additionally, the study results indicate that the there is a negative correlation between the patients' fatigue levels and their quality of life. ***Conclusion:*** the study concludes that heart failure affects patients' quality of life negatively, and it is responsible for severe level fatigue. ***Recommendation:*** The study recommended activate nursing rehabilitation in different health organizations, nurses and other members of the rehabilitation team should encourage to implement the rehabilitation program to improve patients' quality of life.

Keywords: Fatigue, Quality of Life, Heart Failure

Introduction:

Heart Failure is a syndrome resulting from structural or functional disorders that interfere with cardiac function and is characterized by a progressive deterioration of the patient's condition. In some cases, the heart can't fill with enough blood. In other cases, the heart can't pump blood to the rest of the body with enough force. Some people have both problems. The term "heart failure" doesn't mean that your heart has stopped or is about to stop working (UCSF cardiac surgery, 2019). HF patients are prone to develop complex ventricular tachycardias, and some of them die suddenly. In developed countries, about 2% of adults suffer from HF, and it is the main cause of hospitalization in people over 65 years (Garcia, 2015).

As an abnormal condition, HF results in many symptoms, especially dyspnea and fatigue, directly impacting the quality of life. Many patients become unable to perform activities of daily living (ADLs) and may become dependent on others for assistance. This functional disability naturally makes patients with HF unable to remain in the workforce (Rio, 2018).

Therefore, participation in HF disease management programs has improved functional status, improved quality of life, and reduced hospital admissions due to exacerbations. Post-discharge support has been shown to reduce readmission rates, improve health outcomes (Walker, 2011).

Additionally, regular exercise improves factors linked to cardiovascular health, resulting in lower blood pressure, healthier cholesterol levels, and better blood sugar regulation. Exercise also promotes positive physiological changes, such as encouraging the heart's arteries to dilate more readily. It also helps your sympathetic nervous system (which controls heart rate and blood pressure) to be less reactive (Harvard Health Publishing, 2018).

Methodology:

A quantitative correlational study have been carried out in the present study to determine the fatigue level and quality of life of patients with heart failure.

Sample of the study:

A Nonprobability (purposive sample) of 65 patients, those who visit Al-Najaf Center for Cardiac Surgery and Trans Catheter Therapy for treatment, follow up, or both.

Data Collection

The data collection process lasted for four months, starting from 13 Des. 2020 to 19 Mar.2021. It was completed through a personal interview, face to face conversation by using an Arabic version questionnaire. For assessment of fatigue severity, the researcher used Fatigue Severity Scale (FSC),

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while the assessment of the quality of life is determined through using Minnesota living with heart failure Questionnaire (MLHFQ).

Results:

Table .1 Summary Statistics of the Study Sample Socio-Demographic Data

Demographic data	Rating and scoring	Freq.	%
Age / years	40 – 49	6	9.23
	50 – 59	14	21.54
	60 – 69	30	46.15
	70 +	15	23.08
	Total	65	100
Gender	Male	45	69.23
	Female	20	30.77
	Total	65	100
Levels of education	Does not read and write	8	12.31
	Read and write	12	18.46
	Primary School Graduated	30	46.15
	Intermediate School Graduated	5	7.69
	Secondary School Graduated	8	12.31
	Diploma Institute Graduate	2	3.08
	Total	65	100
Residence	Rural	13	20
	Urban	52	80
	Total	65	100
Occupation	Retired	11	16.92
	Housewife	11	16.92
	Governmental employee	6	9.23
	Jobless	26	40
	Free job	11	16.92
	Total	65	100
Fatigue associated with occupation	Always	10	15.38
	Sometime	19	29.23
	Never	36	55.38
	Total	65	100

Table (2): Summary Statistics of the Study Sample Clinical Data:

Clinical Data	Rating and Interval	Freq.	%
Disease duration since diagnosis / Years	1-3	23	35.38
	4-6	12	18.46
	7-9	19	29.23
	10+	11	16.92
	Total	65	100
Take the treatment regularly?	Yes	41	63.08
	No	24	36.92
	Total	65	100
Do you smoker?	Yes	17	26.15
	No	30	46.15
	Past smoker	18	27.69
	Total	65	100
BMI	Normal weight (18.5–24.9)	12	18.46
	Over weight (25–29.9)	22	33.85
	Obesity (30-34.9)	31	47.69
	Total	65	100

Table .3 Summary Statistics of the Patients' Fatigue Levels

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Fatigue Levels	Freq.	%
Mild	0	0.0
Moderate	8	12.3
Sever	57	87.7
Total	65	100.0

Mild (Mean 1-2.33), Moderate (Mean 2.34-3.67), Sever (Mean 3.68-5)

Table.4: Summary Statistics of the Patients' Quality of Life Levels

Quality of Life Levels	Freq.	%
Fair	18	27.7
Good	0	0.0
Low	47	72.3
Total	65	100.0

Low (Mean 2.34-3), Fair (Mean 1.67-2.33), Good (Mean 1-1.66)

Table .5 Correlation between the Study Sample Fatigue and Quality of Life Levels

Main studied domains	Statistics	Fatigue (pre-test)
Quality of Life	Pearson Correlation	.607**
	Sig. (2-tailed)	.0001
	N	65

Table .6 Association between the Patients' Fatigue Levels and their Demographic and Clinical Data

Demographic and Clinical Data	P-Value
Age / years	.141
Gender	.537
Levels of education	.006
Occupation	.434
Disease duration since diagnosis / Years	.167
Take the treatment regularly	.150
Do you smoker?	.216
Comorbidity	.029
Physical limitation (New York Heart Association Classification)	.521
BMI	.261

Table .7 Association between the Patients' Quality of Life Levels and their Demographic and Clinical Data

Demographic and Clinical Data	P-Value
Age / years	.141
Gender	.537
Levels of education	.006
Occupation	.434
Disease duration since diagnosis / Years	.167
Take the treatment regularly	.150
Do you smoker?	.216
Comorbidity	.029
Physical limitation (New York Heart Association Classification)	.521
BMI	.261

Discussion:

The study result indicates that the fatigue level among patients with HF is severe. Additionally, the study result indicates the overall assessment of the patients' quality of life is low. Aritonang, (2018), has studied the "effectiveness of home heart walks (HHW) towards fatigue's degree in heart failure's patients in Jakarta", their findings showed that the patients exhibit severe fatigue. Fatigue is a universal problem in heart failure. It affects patients with heart failure with preserved ejection fraction (HFpEF), but tends to be worse in those with heart failure with reduced ejection fraction (HFrEF). These patients have lower

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cardiac output, which means not as much oxygen and blood are going to the brain and muscles. Also, there are other reasons why heart failure patients may feel fatigued: The beta-blockers are used to treat heart failure are a common cause. Deconditioning, depression, poor sleep, and a poor diet also participate in developing this issue.

Additionally, Lakdizaji *et al.*, (2013), they studied the "Effect of educational program on quality of life of patients with heart failure: a randomized clinical trial), their results indicate that the heart failure affect the patients' quality of life. Additionally, Heo *et al.*, (2010) they have studied the "quality of life in patients with heart failure", they stated that Patients with heart failure experience various physical and emotional symptoms such as dyspnea, fatigue, edema, sleeping difficulties, depression, and chest pain. These symptoms limit patients' daily physical and social activities and result in poor QOL. Poor QOL is related to high hospitalization and mortality rates. Therefore, QOL in patients with heart failure should be assessed appropriately to determine its impact on patients' daily lives.

Fatigue among patients with heart failure is an important issue that the researcher should focused on. It may be associated with many circumstances such as poor patients' adherence, psychological problems, physical problems, and poor quality of life. The present study results indicate that the severe fatigue is associated with a low quality of life and vice versa. Polikandrioti *et al.*, (2019) they studied fatigue in heart failure. They stated that "Heart failure (HF) patients experience various psychosocial issues and physical symptoms such as fatigue, which adversely affect their quality of life (QoL)". Additionally, patients with heart failure experience a different level of fatigue and that related to their general health status, age, the severity of heart failure, their adherence to therapeutic regimen .... etc. Besides its effect on psychological status, fatigue affects patients' physical mobility and ability to perform their daily tasks. Therefore, its affect patients' quality of life.

Furthermore, the present study results indicate that there is a highly significant association between patients' fatigue and their levels of education and comorbidity. Ziaeirad *et al.*, (2017), they studied the "Correlation of fatigue intensity with demographic and clinical characteristics of patients with congestive heart failure " in Iran; their results indicate That there was a significant correlation between fatigue with education level and the presence of other chronic diseases (comorbidities) (P=0.032 and P=0.041). Furthermore, these results may come because the comorbidity plays an important role in decreasing the patient's ability to perform even activities of daily living and feeling with fatigue. Additionally, level of education

Regarding the patients' quality of life, the study results indicate that there is a highly significant association between the patients' quality of life and the disease duration, smoking, and comorbidity (Li Hwang *et al.*, (2014) they studied the predictors of quality of life of patients with heart failure. They found that the disease duration is one of the predictors of the quality of life among patients with heart failure. Lawson *et al.*, (2020) they studied the heart failure risk factors; they stated that smoking is an important risk factor for the occurrence and prognosis of heart failure. And Cascina, *et al.*, (2020) they studied the comorbid conditions and health-related quality of life of patients with heart failure, they stated that the health-related quality of life is affected by the comorbid conditions.

Conclusion and Recommendations:

The study concludes that heart failure negatively affects patients' quality of life and is responsible for a severe level of fatigue. And the study recommended activating nursing rehabilitation in different health organizations. Nurses and other rehabilitation team members should be encouraged to implement the rehabilitation program to improve patients' quality of life.

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