



# Health related quality of life in patients with chronic heart failure

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## Abstract

**Objectives:** Heart failure is one of the most common chronic cardiovascular diseases, which often triggers disability or death. Health-related Quality of life (HRQoL) is one of the most critical factors in deciding how to treat these patients. In this study, we want to figure out the effect of different factors on the quality of life in patients.

**Methods:** This cross-sectional study was performed on 129 patients with heart failure referring to the center of Afshar Hospital in Yazd City, Iran 2017-2018. The standard (Shot Form survey) SF-36 questionnaire was used to measure different dimensions of quality of life.

**Results:** In the present study, 77 men and 52 women with heart failure were included and the relationship between comorbidities, heart failure classification factors, age, sex, and history of hospitalization with quality of life was measured. The result revealed a significantly higher quality of life in patients under 50 years ( $P = 0.005$ ) as well as in men ( $p < 0.001$ ). And in the total population, the average quality of life appeared to be 45.46.

**Conclusions:** Quality of life in patients with heart failure is related to gender and age, so in women over 50 years, the quality of life proved lower but not related to factors such as, hospitalization, type of failure and stage of the disease. Among diseases related to heart failure, only people with high blood pressure showed lower quality of life scores. The total quality of life index score among our subjects was reported to be moderate to low.

**Keywords:** Heart Failure, Quality of Life, Chronic Disease

## Introduction

Heart failure is a clinical syndrome that affects a wide range of people at different ages and is the cause of frequent hospitalizations and disability throughout the patient's life, most often leading to death (1). This disease can psychologically and physically trigger inefficiency in patients. Additionally, it may even

prevent their active participation in the community (2, 3).

Impaired quality of life is affected by various factors, including severity and duration of the disease, level of patient care, patient's environment, and other contributing factors. Therefore, all psychological and physical dimensions of the disease affecting the individual need to be measured (4, 5). According to

reports from the World Health Organization, 26 million people worldwide suffer from heart failure. Prevalence of heart failure in the United States was reported to be 5.7 million in 2017 (6, 7). The incidence of the disease increases with age. Asian communities suffer from a very high incidence level of the disease; for example, its prevalence was reported to be 1.3-4.6 million in India (8), 1 in Japan (9), 4.2 in China (10), and 9 in South Asia (11). Its prevalence is even higher in Iran compared with other countries. On the other hand, due to the breakthrough in surgical methods and the results obtained in this evaluation, patients who survive longer following cardiovascular surgery are more likely to develop heart failure. The incidence of heart failure in Iran in 2014 proved to be 8.1%, and its prevalence in women is slightly higher than in men. Heart failure accounts for more than one-third of all deaths (39%) in Iran in 2014 (12, 13). According to the latest official statistics published by literature, the prevalence of heart failure in Iran turned out to be 3337 per 100,000 people (14). Globally, there have been studies on the quality of life for chronic diseases including heart failure. For example, Ala et al. and Audi et al. reported that the low quality of life in patients with heart failure was associated with their hospitalization and mortality rates (15, 16). In Iran, an analytical study was conducted on 250 outpatients with heart failure using Ferrans and Powers questionnaires in 2008. The researchers investigated the relationship between the quality of life and parameters such as education level, age, sex, duration of heart failure, heart failure rate, frequency of hospitalization, and other chronic diseases. The results demonstrated that heart failure disease bears a negative impact on patients' quality of life; a large number of patients showed poor quality of life (14, 17, 18). The study revealed that in patients with heart failure, in addition to the chronicity of the disease, factors such as limb swelling, weakness and lethargy, shortness of breath, chest pain, sleep disorders, and even depression can impact the quality of life of the patients (19-21). Interestingly, low quality of life can reduce the efficiency of the individual in society and thus act as a burden to the country economically (22). Quality of life is measured in different ways, the best one is to ask patients about their problems. For this purpose, accurate patient information records should be made using a comparison of quality of life with previous studies. This approach is a new approach in the treatment

of the patients (23). The importance of measuring the quality of life in patients with chronic heart failure is in line with determining the impact of the disease on their quality of daily life (24). Mere clinical and medical evaluation fails to determine patients' level of quality of life, however, the patients themselves can express their level of quality of life. Many patients with the same disease and conditions bear different views and assessments of their quality of life. Quality of life is one of the most important issues in the course of any disease and its future prospects (25). National and global studies have not achieved complete information on the quality of life. Moreover, although patients report their various complaints to their doctors, in interviews, these are not calculated and expressed measurably.

This study addressed outpatients with chronic heart failure referring to Afshar Cardiovascular Center in Yazd, Iran in 2017-2018, whose disease was confirmed by a subspecialist as a cardiovascular failure. Moreover, using a questionnaire, the quality of life of these patients was measured, and its relationship with some parameters such as heart discharge percentage, age, sex, and length of hospital stay was addressed.

## Materials and Methods

This study was a descriptive-analytical cross-sectional one conducted with the code of ethics IR.SSU.MEDICINE.REC.1400.240356 with the approval of the Shahid Sadouhi University of Medical Science for one year (2017-2018). The participants included all the outpatients or those patients who due to myocardial dysfunction (systolic insufficiency heart failure with reduced ejection fraction (HfrEF) or diastolic insufficiency heart failure with preserved ejection fraction (HFpEF)) were undergoing drug treatment and, while following the treatment, referred to Afshar Cardiovascular Center in Yazd City, Iran.

In terms of clinical symptoms, they all showed to be stable. Inclusion criteria comprised age over 18 years, classification of heart failure based on the signs and symptoms, left ventricular dysfunction on echocardiography, use of heart failure medications under the supervision of a cardiologist, and at least six months past the onset of their treatment. Exclusion criteria were composed of unfamiliarity with the Persian language, participation dissatisfaction, simultaneous occurrence of other chronic diseases, neurological disorders such as cognitive disorders

and dementia, history of implant surgery, ICD (Implantable Cardioverter Device), CRT (Cardiac Resynchronization Therapy) in the previous three months, a three-month history of surgery and valve implantation as well as physical disability. After examinations and based on the inclusion and exclusion criteria, 129 patients were finally selected. First, verbal informed consent was received from all participants. Then, the participants answered the SF-36 standard questionnaire translated into Farsi and culturally adapted to Iranian quality of life in eight different dimensions. After collecting the patients' demographics and recording their quality level data, the collected data were analyzed using SPSS 20 software. Based on similar studies, patients' quality of life scores were finally divided into four quarters: poor, 0-25%; average, 25-50%; good, 50-75%; and excellent, 75-100 % (26). Only a small number of the patients answered positively to the question of drug use to maintain social security or prove unwillingness to change their physician attitudes toward them. However, statistics demonstrate that drug use in the adult population is higher than in the current study.

## Results

Table 1 illustrates the participants' characteristics. Given that some underlying diseases such as diabetes, hypertension, hyperlipidemia, and smoking are the known risk factors among people with cardiovascular disease, the effect of these factors on patients was addressed in the demographic section of the study. Other essential variables effective in maintaining the patient's quality of life are the history of COPD, MI, and CVA, and length of hospital stay. One of the factors that can improve the patients' health as soon as possible is their quick discharge and thus their earlier return to previous better living conditions. In this research project, the mean age of the women turned out to be higher than men ( $p = .005$ ); it was 58.33 for men but 63.2 for women.

The minimum age proved to be 21 years and the maximum 86.

Regarding the factors related to heart failure, stage, NYHA function class, and hospital history, the difference between men and women was approximately zero, indicating the homogeneity of society in these cases. However, in terms of LVEF, there was a significant difference between the groups; the female population suffered more from heart failure with retention of EF (HFpEF), whereas the male group was more affected by heart failure associated with reduced EF (HFrEF) ( $p = .003$ ). Furthermore, there was a significant difference between men and women in terms of drug use, MI, and HTN. Among the women, drug use showed to be almost zero whereas the history of hypertension proved higher. However, in men, the history of MI turned out to be higher than in women. In terms of the underlying diseases such as diabetes mellitus, hyperlipidemia, stroke and chronic obstructive pulmonary disease, the population of men and women were not significantly different and the study population appeared homogeneous in this regard ( $p > .05$ ).

$p > 0.05$  was considered as significant and  $p < 0.05$  was considered as insignificant.

Table 2, based on quality of life classification, categorizes the relationship of patients' underlying features into four classes: poor, moderate, good and excellent. As Table 2 shows there was a significant relationship between quality of life and age of the patients. There was a significant relationship between quality of life and age of the patients so that the age 69.67 was obtained for the poor quality group whereas 52.67 appeared for the high quality group. The more we move towards a higher quality of life, the lower the average age of the society tends to become  $p = .04$ . As a result, heart failure at a younger age can be associated with a better quality of life.

As Table 2 illustrates, the incidence of other diseases as well as drug use shows no significant association with the quality of life in patients ( $p > .05$ ).

**Table 1.** Characteristics of the study population

		Male		Female		Total		p-value
		count	%	count	%	count	%	
NYHA	I	28	40%	31	62%	59	49.2%	0.050
	II	41	58.6%	16	32%	57	47.5%	
	III	1	1.4%	3	6%	4	3.3%	
	IV	0	0%	0	0%	0	0%	
LVEF	=>40	16	23.2%	20	41.7%	36	30.8%	0.033
	<40	53	76.8%	28	58.3%	81	69.2%	
Stage	1	0	0%	0	0%	0	0%	0.111
	2	0	0%	1	2%	1	0.8%	
	3	70	100%	46	93.9%	116	97.5%	
	4	0	0%	2	4.1%	2	1.7%	
Hospitalization	Yes	51	79.7%	38	88.4%	89	83.2%	0.239
	no	13	20.3%	5	11.6%	18	16.8%	
Drug abuse	Yes	8	12.3%	0	0.0%	8	7.1%	0.013
	no	57	87.7%	47	100.0%	104	92.9%	
DM	Yes	33	48.5%	28	60.9%	61	53.5%	0.195
	no	35	51.5%	18	39.1%	53	46.5%	
HTN	yes	25	37.3%	30	61.2%	55	47.4%	0.011
	no	42	62.7%	19	38.8%	61	52.6%	
HLP	Yes	26	41.3%	25	56.8%	51	47.7%	0.113
	no	37	58.7%	19	43.2%	56	52.3%	
COPD	Yes	47	21.3%	34	14.7%	81	18.5%	0.452
	no	37	78.7%	29	85.3%	66	81.5%	
MI	Yes	38	60.3%	19	40.4%	57	51.8%	0.039
	no	25	39.7%	28	59.6%	53	48.2%	
CVA	yes	7	13.5%	16	14.3%	13	13.8%	0.908
	no	45	86.5%	36	85.7%	81	86.2%	
Age	<50	21	28.8%	3	6.0%	24	19.5%	0.005
	51-60	16	21.9%	18	36.0%	34	27.6%	
	61-70	23	31.5%	13	26.0%	36	29.3%	
	>70	13	17.8%	16	32.0%	29	23.6%	

(**NYHA**: New York Heart Association; **LVEF**: Ejection Fraction Heart Failure Measurement; **DM**: Diabetes Mellitus; **HTN**: Hypertension; **HLP**: Hyperkeratosis Lenticularis perstans; **COPD**: Chronic Obstructive Pulmonary Disease; **MI**: Myocardial Infarction; **CVA**: Cerebrovascular Accident)

**Table 2.** Review of the underlying characteristics on the basis of the quality of life classification

		HRQoL				total	p-value
		poor	moderate	Good	high		
Age*		69-67	60-83	57-44	52-67	60-31	0.045
DM	Yes	4(40.0%)	36(60.0%)	19(47.5%)	2(50.0%)	61(53.5%)	0.484
	No	6(60.0%)	24 (40.0%)	21(52.5%)	2(50.0%)	53(46.5%)	
HTN	Yes	7(63.6%)	32(53.3%)	15(36.6%)	1(25.0%)	55(47.4%)	0.201
	No	4(36.4%)	28(50.9%)	26(63.4%)	3(75.0%)	61(52.6%)	
HLP	Yes	5(50.0%)	28(50.9%)	16(42.1%)	2(50.0%)	51(47.7%)	0.866
	No	5(50.0%)	27(49.1%)	22(57.9%)	2(50.0%)	56(52.3%)	
COPD	Yes	2(20.0%)	(25.6%)	3(10.3%)	0(0.0%)	15(18.5%)	0.414
	No	8(80.0%)	29(74.4%)	26(89.7%)	3(100.0%)	66(81.5%)	
MI	Yes	5(41.7%)	31(55.4)	19(50.0%)	2(50.0%)	57(51.8%)	0.853
	No	7(58.3%)	25(44.6%)	19(50.0%)	2(50.0%)	53(48.2%)	
CVA	Yes	2(16.7%)	6(12.5%)	5(16.1%)	0(0.0%)	13(13.8%)	0.852
	No	10(83.3%)	42(87.5%)	26(83.9%)	3(100.0%)	81(86.2%)	
Drug	Yes	0(0.0%)	5(9.1%)	3(7.1%)	0(0.0%)	8(7.1%)	0.901
	No	12(100.0%)	50(90.9%)	39(92.9%)	3(100.0%)	104(92.9%)	

\*One way ANOVA was applied (**DM**: Diabetes Mellitus; **HTN**: Hypertension; **HLP**: Hyperkeratosis Lenticularis perstans; **COPD**: Chronic Obstructive Pulmonary Disease; **MI**: Myocardial Infarction; **CVA**: Cerebrovascular accident; **HRQoL**: Health-Related Quality of life)

**Table 3.** Assessment of the characteristics related to heart failure according to quality of life classification

		poor	moderate	good	High	
NYHA	I	6(60.0%)	35(54.7%)	17(40.5%)	1(25.0%)	59(49.2%)
	II	3(30.0%)	28(43.8%)	24(57.1%)	2(50.0%)	57(47.5%)
	III	1(10.0%)	1(1.6%)	1(2.4%)	1(25.0%)	4(3.3%)
	IV	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
LVEF	=>40	6(60.0%)	22(34.9%)	5(12.5%)	3(75.0%)	36(30.8%)
	<40	4(40.0%)	41(65.1%)	35(87.5%)	1(25.0%)	81(69.2%)
Stage	1	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
	2	0(0.0%)	1(1.6%)	0(0.0%)	0(0.0%)	1(0.8%)
	3	9(90.0%)	61(96.8%)	42(100.0%)	4(100.0%)	116(97.5%)
	4	1(10.0%)	1(1.6%)	0(0.0%)	0(0.0%)	2(1.7%)
Hospitalization	Yes	9(81.8%)	46(88.5%)	31(75.6%)	3(100.0%)	89(83.2%)
	no	2(18.2%)	6(11.5%)	10(24.4%)	0(0.0%)	18(16.8%)
Duration*		19.38	13.47	9.24	6.50	12.62

**0.106**

**0.001**

**0.357**

**0.372**

**0.285**

(NYHA: New York Heart Association; LVEF: Ejection Fraction Heart Failure Measurement)

As projected by Table 3, relationship between the features pertinent to heart failure is classified into four categories based on quality of life: poor, moderate, good and excellent. The relationship between length of hospital stay, heart failure stage and hospital history, as well as NYHA function

class with quality of life classification was not significant ( $p>.05$ ). Importantly, patients with HfrEF were of a higher percentage at the moderate and good categories, and those with HFpEF were at the two ends of the spectra, i.e., poor and excellent, were significantly different at a higher percentage.

**Table 4.** Report on the average quality of life in terms of physical, mental and overall dimensions in the study population

		PSC Mean	SD	MSC Mean	SD	HRQoL Mean	SD	CI lower	upper
Sex**	Male	49.23	17.58	48.60	13.25	49.39	14.07		
	female	36.80	18.13	44.35	12.57	39.65	13.45		
	p-value	p<0.001		0.70		0.000			
Age	<50	52.99	16.41	48.90	11.94	51.78	13.07	26.25	85.42
	51-60	43.07	19.36	43.71	14.12	44.45	14.76	12.64	75.28
	61-70	44.86	18.20	48.54	12.25	46.32	14.02	16.81	76.11
	>70	34.61	15.62	45.33	12.97	38.01	13.17	13.89	70.69
	total	43.53	18.45	46.52	12.93	44.91	14.44	42.33	47.49
	p-value	0.003		0.319		0.005			
LVEF	=>40	40.05	20.30	45.35	13.86	42.10	15.80	19.03	85.42
	<40	44.74	16.73	47.14	11.94	45.86	12.51	16.81	76.11
	total	43.29	17.94	46.59	12.53	44.70	13.65	16.81	85.42
Hospitalization	p-value	0.194		0.476		0.171			
	No	50.97	17.99	47.46	13.42	49.48	12.455	43.29	55.67
	Yes	43.06	19.06	47.06	13.33	44.96	15.163	41.77	48.15
	total	44.39	19.03	47.13	13.28	45.72	14.786	42.89	48.55
Drug Abuse	p-value	0.108		0.909		0.239			
	No	44.24	19.26	46.77	13.64	45.50	15.00	42.59	48.42
	Yes	43.04	16.61	46.92	11.55	44.33	12.82	33.61	55.06
	total	44.15	19.02	46.78	13.46	45.42	14.81	42.65	48.19
DM	p-value	0.865		0.976		0.831			
	No	45.76	19.49	47.87	14.11	47.28	15.12	43.12	51.45
	Yes	43.11	18.18	46.63	12.45	44.11	14.24	40.46	47.76
	total	44.35	18.76	47.20	13.20	45.58	14.67	42.86	48.31
HTN	p-value	0.454		0.618		0.251			
	No	47.70	19.08	47.99	14.02	48.16	15.07	44.30	52.02
	Yes	40.45	18.17	46.17	13.01	42.50	14.46	38.58	46.41
	total	44.26	18.93	47.13	13.52	45.47	14.99	42.72	48.23
	p-value	0.039		0.471		0.042			

		PSC		MSC		HRQoL		CI	
		Mean	SD	Mean	SD	Mean	SD	lower	upper
HLP	No	45.95	19.63	47.69	13.30	47.12	15.50	42.96	51.27
	Yes	42.45	19.29	46.00	13.42	43.96	14.85	39.78	48.13
	total	44.28	19.46	46.88	13.32	45.61	15.21	42.69	48.52
	p-value	0.356		0.517		0.285			
COPD	No	47.61	20.51	47.17	13.24	47.79	15.94	43.87	51.71
	Yes	36.25	15.39	43.96	15.61	40.08	13.30	32.71	47.45
	total	45.51	20.07	46.57	13.66	46.36	15.70	42.89	49.83
	p-value	0.047		0.416		0.086			
MI	No	46.02	22.36	45.23	13.65	46.06	17.12	41.34	50.78
	Yes	42.60	14.98	47.79	13.10	44.52	12.78	41.13	47.92
	total	44.25	18.89	46.55	13.37	45.26	14.98	42.43	48.10
	p-value	0.344		0.318		0.593			
CVA	No	44.06	19.79	46.38	13.07	45.21	15.42	41.80	48.62
	Yes	42.16	19.66	44.95	15.60	43.13	16.64	33.07	53.19
	total	43.80	19.68	46.18	13.37	44.92	15.52	41.74	48.10
	p-value	0.748		0.723		0.656			

(LVEF: Ejection Fraction Heart Failure Measurement; DM: Diabetes Mellitus; HTN: Hypertension; HLP: Hyperkeratosis Lenticularis Perstans; COPD: Chronic Obstructive Pulmonary Disease; MI: Myocardial Infarction; CVA: Cerebrovascular Accident)

Table 4 presents the mean and standard deviation of quality of life in physical and psychological dimensions as well as the overall quality of life.

One way ANOVA and independent sample t-test were used to achieve these results. As a result, men showed a significantly higher score than women in terms of physical, mental and overall quality of life ( $p = 0.000$ ). Uncovered by this table, younger people were better in terms of quality of life in the physical dimension ( $p = .003$ ) and overall quality of life ( $p = .005$ ) but not much different in terms of psychological dimension separately.

In the case of EF, the quality of life score was slightly higher in HFrEF patients. This difference can be justified by the predominantly male population in this group. As illustrated in Table 4, drug users, people with a history of hospitalization, HLP, HTN, DM, CVA, MI, and COPD gained a better quality of life scores, compared to people lacking such records. In patients with COPD, the quality of life in the physical dimension was significantly lower than in those without a history of the disease. However, in terms of psychological dimension and overall quality of life, this difference failed to be significant. Patients with HTN attained lower scores in terms of physical dimension and overall quality of life than those without a history of the disease. In other cases, however, the difference between the scores of the two groups with the answers *yes* and *no* did not appear to be significant in all physical,

psychological and overall dimensions of the quality of life.

**Table 5.** Quality of life in the whole population studied

HRQoL		
0-<25	Poor	9.3%
25- <50	Moderate	51.2%
50- <75	Good	36.4%
75-100	High	3.1%
PSC	Mean + SD	46.89(13.10)
MSC	Mean + SD	44.22(18.76)
Total QoL	Mean + SD	45.46(14.58)

Table 5 represents quality of life obtained from the average of a total of eight dimensions, i.e., physical function, physical role, body pain, general health, vitality, social function, emotional role and mental health. In this study, of the total population, 9.3% of the quality of life was under 25 percentile, thus meaning poor, 51.2% between 25-50 percentile meaning average, 36.4% between 50-75 percentile meaning good, and 3.1% showed an excellent quality of life of above 75%. As a result, most of the participants demonstrated a moderate to low quality of life. The average quality of life as for the physical dimension turned out to be 46.89; psychological dimension, 44.22; and for total quality of life, 45.46. The average quality of life is reported in all three dimensions.

## Discussion

The present study investigated patients with chronic heart failure, who had referred to Afshar

Clinic, an outpatient treatment center in the central and southern part of Iran, i.e., in Yazd, Iran between 2017 and 2018. Factors such as chest pain, coughing and wheezing chronically, shortness of breath especially when walking and climbing stairs, shortness of breath, fatigue, weakness and lethargy, swelling of the limbs especially the lower limbs, inability to perform activities or even daily activities, frequent hospitalizations and even the use of several drugs simultaneously are the factors that patients with heart failure usually suffer from (27). One of the most important ways to assess patients' quality of life is to ask them questions which was the basis of our data collection (28). Several studies have studied the quality of life of each person via two dimensions of general physical and general mental health. The physical health dimension includes individuals' efficiency in personal life and their relationship with work and social environment. However, the mental health dimension deals with the individual's sense of psychological satisfaction in any situation in which they exist. As a result, the quality of life in patients is a matter of personal or mental thinking, and these studies are often written based on patients' perspectives (15).

In the present study, the SF-36 quality of life questionnaire was used. The final result was divided into four percentiles based on similar studies; poor, good, average and excellent quality of life (29). A 2008 study by Shojaei et al. examined the quality of life in heart failure patients on 76.4% of patients showing poor to moderate quality of life in a cross-sectional study. They selected Two hundred and fifty patients with heart failure by random sampling method and collected data by using Ferrans and Powers quality of life Index. The researchers stated that due to the negative effect of heart failure on the quality of life in these patients, one responsibility of the medical community is to make an attempt to improve their patients' quality of life (14). In another study conducted in 2011, a team used the SF-36 questionnaire to evaluate patients with heart failure. They underscore that quality of life in patients with heart failure is subjective and does not merely reflect physiological status, or objective clinical perspective. The definition of patients about QOL is reflected active pursuit of happiness and relationships with others, as well as the effect of heart failure on their routine activities. Patients' QOL was affected not only by psychological, negative physical, economic status, and social, but

also by positive psychological physical, social status, and behaviors. Written, informed consent for participation in this study reflected their adopted perception of their changed positive outlook and changed clinical condition. According to this study, factors such as smoking, old age and female gender were found to have a role in reducing the quality of life of patients in both physical and psychological dimensions (24). Also in our study, as set out in the results, older patients had a lower quality of life. Moreover, in terms of physical health and the overall index of quality of life, women were affected less than men. But according to our study, drug use failed to have much effect on the quality of life.

According to some studies, many factors such as underlying diseases, drug use, marital status and various other factors can affect the quality of life of heart failure patients. For example, some scientists believe that marital status can affect patients' quality of life, and it has even been shown that married patients with heart failure show a higher quality of life than people with the same condition but single (31, 30).

These studies conclude that quality of life and the factors affecting it are very widespread so it is not merely the disease that exerts its effects. For example, some studies have shown that patients with a positive attitude and higher morale prove a higher score on the quality of life index (4). Chronic diseases also lead to a reduction in the quality of life of people, but this decrease is different. In the present study, major depression was considered a disturbing factor and was eliminated. However, in Juenger's study in 2002, for example, a significant difference was discerned between patients suffering from heart failure with NYHA function class III and major depression compared to their non-depressed counterparts in terms of the quality of life (2). Today, global health studies indicate the quality of life and general health are affected by various factors including the environment (32-36). The overall goal of this work is to be accurately extracted and recorded information from each patient so that we can provide better solutions for the treatment or lifestyle of these patients by reporting the quality of life index of these patients and comparing the quality of life in patients studied with some previous research. Therefore we accurately extracted and recorded information from each patient so that we can provide better solutions for treatment or lifestyle of these patients by reporting the quality of life index of these patients

and comparing the quality of life in patients studied with previous studies. As a result, it may be possible to justify lack of significance of all psychological dimensions in the present study as well as the quality of life being dependent on the poorer status of the disease. As a result, it may be possible to justify the lack of significance of all psychological dimensions in the present study and the quality of life being dependent on the poorer status of the disease. Results of the present study revealed that among all the major underlying diseases studied, only hypertension was significant in reducing the overall quality of life of patients. The results also revealed that COPD reduces the quality of life in terms of physical health. As a result, more studies are needed to investigate the effect of these diseases on the quality of life of heart failure patients.

### Conclusion

As a result of this study, factors such as old age and female gender are effective in reducing the

quality of life of heart failure patients. Among the underlying diseases and risk factors, only blood pressure led to lower quality of life in patients, but COPD reduced this quality only in the physical dimension. Also, patients with systolic heart failure were in a higher to a good category of quality of life than patients with diastolic heart failure; however, there was not much difference in overall quality of life. Factors such as stage and hospitalization fail to affect the quality of life of heart failure patients.

### Conflicts of Interest

The authors declare no conflict of interest.

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