

**Study of quality of life in heart failure hospitalized patients In Kerman medical university hospital in 2008**Yousefi1 P<sup>1,2</sup>, Sabzevari S<sup>3\*</sup>, dalizade M<sup>4</sup>, Haghdoost AA<sup>5</sup><sup>1-</sup> MSc. of Nursing, Cardiovascular Research Center, Hormozgan University of Medical Sciences, Bandar abbas, Iran.<sup>2-</sup> Social Determinants in Health Promotion Research Center, Hormozgan University of Medical Sciences, Bandar abbas, Iran.<sup>3-</sup> PhD of Nursing & Medical Education, Assistant professor, Razi Nursing Faculty, Kerman, Iran.<sup>4-</sup> MSc. of Nursing, Academic Member, Razi Nursing Faculty, Kerman, Iran.<sup>5-</sup> PhD of Epidemiology, Professor, Kerman University of Medical Sciences and Health Services, Kerman, Iran  
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**Abstract:** Introduction: Heart failure is a disabling and chronic disease whose progressive symptoms and the subsequent physical limitations lower the quality of life. Improving the quality of life is of a great importance in the health care system academic course. Therefore, evaluating the life quality of patients with heart failure helps nurses to do a more principled care service. The present research was carried out with the aim of examining the quality of life among patients afflicted with heart failure. Methodology: This research is of a descriptive-analytical type and was done on 200 patients suffering from heart failure hospitalized in the heart section or CCU of Shafa and Afzalipour hospitals. In order to check for the life quality of these patients, the common and standard SF36 instrument was employed. The questionnaires were filled out through interviews with the patients. To analyze the data, central tendency, distribution, Mann-Whitney U-test, Kruskal-Wallis and regression were employed using SPSS version 13. Findings: Research findings revealed that 57.5% of the patients were female. Average age was 65.43±12.02. In examining the aspects of life quality using SF36, the highest and lowest scores belonged to mental health and physical problems respectively. Investigating the correlation of individual characteristics and the quality of life among these patients revealed that those of less than 60 years of age who were also married enjoyed a better life quality. From different aspects, women had a lower quality of life than men ( $p<0.05$ ); patients with lower educational level also showed to have a lower quality life. Investigating the correlation of comorbidities and the quality of life showed that patients who had experienced heart attack, angina, high blood pressure, diabetes, respiratory problems or CABG surgery had an overall lower quality of life. Concerning smoking cigarettes, drug addiction, affliction with kidney diseases, brain stroke, no statistically significant correlation was found ( $p<0.05$ ). Conclusion: The overall results indicated that patients with heart failure are not privileged with a high quality of life. It is, therefore, suggested that healthcare providers especially nurses provide the required consistent care, proper treatment and facilities in order to improve the quality of life for these patients.

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**Key terms:** heart failure, quality of life, interior of heart section, CCU.

**Introduction:**

Cardiovascular diseases are currently among the most widespread chronic diseases all around the world. They are predicted to have 25 million victims until 2020 and be recognized as the primary reason of mortality and disability by that time (1). Most of cardiovascular diseases often lead to heart failure which is accompanied by the heart's inability to provide adequate oxygen required for tissue oxidation (2). The final phase of chronic cardiovascular diseases is heart failure (3) which is considered to be a major medical problem (4 & 5). Research findings have shown that the number of hospitalizations has risen from 402,000 in 1979 to a million and a hundred thousand in 2004 (6). With regard to the high rate of hospitalization and rehospitalizations due to diagnosis

of heart failure (7), this disease has charged patients and healthcare organizations with high costs (8 & 9). Lowering of life quality has become an inevitable part of these people's life obsessions. Quality of life is decreased because of the physical signs of this disease, negative side-effects of treatment as well as the subsequent social limitations it brings about (10). Scott (2004) elaborates on the reasons for the low quality of life for these patients as:

"Heart failure is a life threatening disease. During the affliction period, patients constantly experience fear, stress and depression caused by myocardial injury and death expectation. Eventually, physical limitations, progressive signs of the disease and mental disorders lead to the lowering of life quality for these patients".

This researcher also indicated that patients with heart failure experience stress, depression and loss of control over their lives which is caused by the disease and its concurrent weakness (11). Johnson et al (2005) refer to the results of a research that shows patients with heart failure have a lower quality of life compared to those who suffer from rheumatoid arthritis, angina, heart attack, atrial fibrillation, blood pressure and COPD (12). All in all, the limited body of research in this realm all attest to the fact that the quality of life among patients with heart failure is lower than their peers with other chronic diseases (13).

The results of investigating the quality of life can be useful in predicting the effects of disease, recognizing patients' needs, providing proper healthcare and service for them, and finally improving the healthcare system (14). Today, investigating the quality of life plays a complementary role, along with objective and clinical assessments, in evaluating the services, hygienic needs, effects of medical interventions, and the inevitable financial medical costs (15).

Considering the disastrous physical and mental effects of heart failure, the nursing healthcare becomes of a greater importance in improving the health state and life quality of these patients (11). Improving the quality of life among these patients is a significant goal in treating this disease (16). The goal of examining life quality of patients with heart failure is to take proper actions in nursing healthcare, reduce depression, increase activity level, increase knowledge, improve self-care nursing skills and finally improve the quality of life in general (17).

Although research findings indicate that the disease affects the quality of life for sure, yet the improvement of life quality is of a great importance in healthcare systems. Knowledge of the patients' quality of life especially those with heart failure whose rehospitalization took longer than others helps nurses to provide a more principled and careful service. Through investigating the life quality, nurses can diagnose particular needs and problems of patients concerning their disease or other disabilities. This way, they can raise them to the highest levels and degrees of strength and abilities. Therefore, nurses play a significant role in improving the quality of life of patients with heart failure. The present research has been carried out with the aim of examining the quality of these patients.

#### **Methodology:**

The current research is of a descriptive-analytic type. It examines the quality of life among patients with heart disease in the heart section and CCU of the hospitals affiliated with the Medical Sciences University of Kerman.

The research sample consisted of 200 patients afflicted with heart failure selected according to access and convenience. They possessed the following characteristics:

- Diagnosis with heart failure by a doctor was recorded in their medical file.
- They were totally conscious and aware of the research procedures and could willingly participate in it.
- They were able to speak Persian.
- They were physically fit enough to answer the research questions.

Those patients who lacked any of the above-mentioned characteristics or had, in their medical file, a mental disorder such as depression, chronic stress, schizophrenia or dementia were omitted from the study.

A questionnaire was employed in this research which consisted of: *personal characteristics* such as age, sex, marital status, frequency of hospitalizations, smoking, drug addiction and comorbidities such as: heart attack, angina, blood pressure, diabetes, respiratory diseases, kidney diseases, brain stroke and CABG surgery. The standardized popular instrument of measuring life quality is SF36 which has been designed and standardized with the aim of linking the quality of life to health. In Iran, it has been standardized by Dr. Montazeri and his associates and its validity and reliability were established (18).

Sampling was done through regular visits to the clinics during which the patients with heart failure who met all the conditions of this research were interviewed. The questionnaires were filled out based on the interview responses jotted down by the researcher.

In order to analyze data with the help of SPSS v.13, use was made of indices of central tendency and distribution, Mann-Whitney U-test, Kruskal-Wallis and regression. Moral considerations which were taken into account included: submitting introductory document to the hospitals, providing adequate explanations for the patients, acquiring their consent, allowing them to choose to/not to take part in the study and insurance of privacy and anonymity.

#### **Findings:**

The results revealed that the majority of patients in this study were women (57.5%), married (71%) and uneducated (66.5%). 15.5% of them were workers. A high percentage of patients were housewives (30%). With regard to age, the mean and standard deviation of the hospitalized patients was  $65.43 \pm 12.02$ . Concerning the frequency of hospitalization, the majority of patients (48%) had the hospitalization background of more than three times. On the whole, 81.5% of the patients had the background of rehospitalization. With regard to comorbidities in

patients with heart failure the commonest were angina (85.5%), high blood pressure (51%) and experiencing heart attack (38.5%). Analyzing the eight-aspect scores of SF36 in patients with heart failure showed that the highest standard deviation of the scores related to mental health 43.58 ( $\pm 24.44$ ). In the present research, the lowest standard deviation of the scores belonged to physical problems 5.87 ( $\pm 21.11$ ) (Table 1).

In SF36 test the closer the mean score is to zero, the lower is the quality of life. Therefore, the lowering of the mean scores in physical problems indicates the more severe damage it causes to the quality of life of these patients. The frequency of SF36 aspects based on the cutoff point (Table 2) also shows that the majority of patients obtained scores lower than 50 in different aspects of the test.

Investigating the correlation of different aspects of life quality and age showed that the mean score of physical performance was significantly higher among patients younger than 60 years of age than the other two groups: 60-70 years old and those above 70 ( $p=0.001$ ) (Table 3). Results of multi-variate regression (Table 4) indicated that for every one year added to one's age, the physical performance score would be reduced for 3.169. Examining the correlation of life quality and sex in this research showed that the mean scores of physical performance, social activity, liveliness and mental health are significantly lower in women than men ( $p<0.05$ ) (Table 5). As for the marital status variable, the mean scores of physical performance and social activity was found to be significantly higher in those who were married than the single (widows, divorcees or bachelors) ( $p<0.05$ ). Regarding the scores of different aspects of life quality and one's ability of earning a living, the mean scores of mental health and liveliness were significantly lower among patients who had difficulty earning their living than those without such a problem ( $p<0.05$ ). The analysis based on educational level also showed that the mean score of physical performance was significantly higher among educated patients than the uneducated ones ( $p<0.05$ ).

The next variable explored was the frequency of hospitalization. The mean score of life quality in all its aspects including overall health, physical performance, emotional problems, social activity, physical pain and liveliness significantly decreased when the frequency of hospitalization increased for the patient ( $p<0.05$ ) (Table 6). The results of multi-variate regression also revealed that an increase in the frequency of hospitalization reduces the scores of physical performance, physical problems, social activity, emotional problems, physical pain, overall health, mental health and liveliness as the following: 28.58, 12.66, 20.83, 24.27, 12.37, 25.94, 16.23, 20.56. As for the experience of comorbidities, the mean score of physical aspect was found to be significantly lower in patients who had experienced diseases such as angina, heart attack, diabetes or blood pressure ( $p<0.05$ ). Therefore, these patients seem to have a lower quality of life.

#### Discussion:

Examining the mean scores of the eight aspects of life quality among patient participants showed that the highest standard deviation belonged to mental health aspect: 43.58 ( $\pm 24.44$ ). The mean (SD) of mental health score in Hagglund et al (2006) was the highest: 74.5 ( $\pm 16.3$ ) (19). In the present research the lowest mean (SD) belonged to the physical problems aspect: 5.87 ( $\pm 21.11$ ). In Ekman et al (2002), this aspect was also found to obtain the lowest score: 25.3 ( $\pm 33.9$ ) (20). Considering the fact that in SF36 the closer the score is to zero, the lower the quality of life is then the low score in physical problem points to the more damage caused by this aspect to the quality of life. Overall, the scores obtained for physical problems and mental health in the present research are lower than those of the above-mentioned studies. This indicates the poorer quality of life in patients with heart disease in terms of these aspects. This can be due to the severity of heart disease or the other comorbidities or also due to insufficient care provision and social support received from health-care providing organizations.

Table 1- Mean scores and standard deviation of different aspects of SF36 in patients with heart failure hospitalized in the heart section or CCU of hospitals affiliated with Medical Sciences University of Kerman

aspects	Mean	SD	minimum	maximum
Overall health	<b>87/41</b>	<b>96/18</b>	<b>0</b>	<b>85</b>
Physical performance	<b>75/25</b>	<b>34/16</b>	<b>0</b>	<b>80</b>
Physical problems	<b>87/5</b>	<b>11/21</b>	<b>0</b>	<b>100</b>
Emotional problems	<b>83/32</b>	<b>87/37</b>	<b>0</b>	<b>100</b>
Social activity	<b>12/31</b>	<b>60/32</b>	<b>0</b>	<b>100</b>
Physical pain	<b>76/36</b>	<b>15/29</b>	<b>0</b>	<b>100</b>
Liveliness	62/37	00/24	0	100
Overall health	58/43	44/24	0	100

Table 2- Frequency distribution of the aspects of SF36 in patients with heart failure hospitalized in the heart section or CCU of hospitals affiliated with Medical Sciences University of Kerman

Aspects	Scores lower than 50		Scores equal to 50		Scores higher than 50	
	frequency	percentage	frequency	frequency	frequency	frequency
Overall health	127	5/63	17	5/8	56	28
Physical performance	175	5/87	11	5/5	14	7
Physical problems	186	93	5	5/2	9	5/4
Emotional problems	155	5/77	0	0	45	5/22
Social activity	141	5/70	13	5/6	46	23
Physical pain	151	5/75	0	0	49	5/24
Liveliness	136	68	8	4	56	28
Mental health	119	59.5	0	0	81	4.5

Table 3- comparing the mean scores of different aspects of Life quality in terms of age in patients with heart failure hospitalized in the heart section or CCU of hospitals affiliated with Medical Sciences University of Kerman

Age aspects	60 >			60-70			70 <			Test result p
	Mean	SD	Medium	Mean	SD	Medium	Mean	SD	Medium	
Overall health	80/40	98/19	34/98	16/45	43/18	68/109	19/40	45/18	15/95	32/0
Physical performance	64/30	68/16	19/118	66/27	37/16	33/108	38/20	61/14	42/80	0001/0
Physical problems	27/9	24/27	52/103	58/4	52/17	14/100	16/4	75/17	37/98	553/0
Emotional problems	33/33	71/36	94/102	55/35	75/38	42/104	34/30	43/38	54/95	576/0
Social activity	65/31	70/33	66/100	25/31	93/31	47/102	60/30	64/32	54/95	934/0
Physical pain	45/36	96/29	21/100	75/34	17/28	89/96	55/38	51/29	51/103	792/0
Liveliness	61/36	14/26	61/96	75/39	00/23	94/106	79/36	17/23	27/102	574/0
Mental health	87/41	10/26	44/95	46/47	99/23	47/110	94/41	38/23	86/96	277/0

Table 4- Results of multivariate regression for determining the effective demographic features on the physical performance scores of patients with heart failure hospitalized in the heart section or CCU of hospitals affiliated with Medical Sciences University of Kerman

variable	Regression coefficient	Statistical validity	R	constant
age	169/3-	003/0	207/0	600/42
Sex: 1-male 2-female	266/40-	496/0		
Marital status: 1-married 2-single	585/3	896/0		
Education: 1-educated 2-uneducated	001/5	609/0		
Difficulty earning their living: 1-yes 2-no	944/42	055/0		
Frequency of hospitalization 1,2, 3, more than 3 times	582/28-	003/0		
Experience of angina: 1-yes 2-no	590/74	024/0		
Job 2: 1-housewife 2-other	847/10-	742/0		
Job 3: 1-other jobs 2-other	537/28-	653/0		

Table 5- Comparing the mean and standard deviation of different aspects of life quality in terms of sex in patients with heart failure hospitalized in the heart section or CCU of hospitals affiliated with Medical Sciences University of Kerman

sex aspects	male			female			Test result p
	Mean	SD	Medium	Mean	SD	Medium	
Overall health	41/43	00/21	54/105	74/40	31/17	78/96	288/0
Physical performance	94/28	50/15	63/113	39/32	61/16	80/90	006/0
Physical problems	47/6	21/22	40/101	43/5	35/20	83/99	696/0
Emotional problems	68/35	43/40	88/102	90/35	90/35	74/98	591/0
Social activity	91/36	82/34	65/110	31/30	31/30	93	030/0
Physical pain	32/39	21/31	58/104	52/27	52/27	49/97	381/0
Liveliness	29/42	55/25	08/111	27/22	27/22	68/92	026/0
Mental health	36/49	74/24	32/114	42/23	42/23	28/90	004/0

Table 6- Comparing the mean and standard deviation of different aspects of life quality in terms of hospitalization frequency in patients with heart failure in the heart section or CCU of hospitals affiliated with Medical Sciences University of Kerman

f of hospitalization aspects	1 <sup>st</sup> hospitalization			2 <sup>nd</sup> hospitalization			3 <sup>rd</sup> hospitalization			<3 <sup>rd</sup> hospitalization			Test result p
	Mean	SD	Medium	Mean	SD	Medium	Mean	SD	Medium	Mean	SD	Medium	
Overall health	48/51	57/19	92/126	60/48	15/17	50/123	12/38	27/16	17/91	09/36	89/17	35/82	0001/0
Physical performance	18/29	35/18	78/110	25/33	95/17	03/126	83/25	85/15	35/103	04/21	27/13	39/84	001/0
Physical problems	45/9	85/27	54/105	37/13	05/30	69/110	00/0	00/0	00/92	60/2	80/13	12/96	009/0
Emotional problems	84/46	17/41	00/120	73/45	42/42	33/117	22/22	98/34	71/82	30/24	89/31	90/89	002/0
Social activity	00/50	03/37	00/130	56/41	92/33	16/120	12/28	77/29	75/97	92/19	81/25	01/81	0001/0
Physical pain	37/48	48/33	27/121	06/49	74/29	17/127	91/27	82/23	04/80	98/28	00/25	66/85	0001/0
Liveliness	67/45	10/27	51/117	93/45	03/24	74/120	12/38	41/27	88/100	67/30	63/19	78/84	001/0
Mental health	48/50	98/25	11/116	76/49	33/25	57/114	00/44	19/22	69/102	04/38	93/22	64/87	018/0

Findings of the present study revealed that with an increase in the age of the patients, the quality of life decreases in the physical performance aspect. This is consistent with the findings of Witham et al (2007). Investigating the life quality in terms of marital status showed that the mean scores of physical performance and social activity are significantly higher in married patients than the single (bachelors, widows or divorcees) ( $p < 0.05$ ). This finding was consistent with that of Louise et al (2007) (22). It is also in line with the study conducted by Clin et al (1999) which attested to the higher score of physical performance and social activity among married patients (23). This could be due to the fact that single patients are usually less sociable than others and are also deprived of the emotional, familial support of a second person who lives with them as a spouse. Another possible reason can be the fact that the single patients are generally younger and due to that they are expected to be physically fit and more socially active. Analyzing the mean score of life quality according to educational level revealed that the mean score of physical performance was significantly higher in educated patients than the uneducated ( $p < 0.05$ ). Similar findings were witnessed in Meek et al (2001) in which the less educated participants showed to have a lower quality of life (24). In the present research, the poorer quality of life for these patients can be because such people are of low economic status which has deprived them of an adequate access to health care services. It is also possible that the majority of uneducated patients are women. According to the previous research findings, women have been found to have a lower quality of life compared to men. Generally speaking, higher levels of education affect a healthy life positively. It enhances one's satisfaction with life and finally increases the quality of life. Results of

multivariate regression also indicated that with an increase in the frequency of hospitalization the scores of the following are reduced: physical performance, physical problems, social activity, emotional problems, physical pain, overall health, mental health and liveliness. In contrast, the scores of the three physical, emotional and overall aspects are added to. Rodrigues et al (2004) indicated in their study that the mean scores of physical problems, physical performance, liveliness and overall health are reduced significantly with an increase in the frequency of hospitalization (25). As for the effect of the comorbidities, they were found to have negative influence over the diverse aspects of life quality. With this regard, Cott et al (2006) indicated that patients with heart failure who had comorbidities had a lower quality of life. Affliction with four or more comorbidities has a more severe effect on lowering the quality of their lives (26). Such diseases are more prevalent among the elderly. They, therefore, require a more intensive care than the others. Other research has shown that comorbidities are predictors of the frequency of hospitalization, and they affect the life quality of patients with heart diseases significantly. Among the limitations of the present research is questionnaire completion by the researcher or through interview which could have affected the responses. Moreover, due to the lack of participation in non-clinical places, this research was restricted to the heart section of hospitals.

#### Conclusion:

Findings of the present research indicated that patients with heart failure do not have the privilege of a desirable quality of life especially with respect to physical aspects. It is, therefore, required that healthcare providers including nurses pay careful attention to their diverse physical problems. They are

required to provide them with an attentive, supportive and consistent care. It was also found that women, the elderly, the uneducated, those who live on their own along with those who have difficulty earning their living have a generally lower quality of life. Frequent hospitalizations and comorbidities are among other variables which significantly decrease the quality of life for these patients. They also need a great care offered by the responsible nursing staff.

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