ANALYSIS OF THE FACTORS AFFECTING ILLNESS PERCEPTION IN PATIENTS WITH HEART FAILURE

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Contribution

ABSTRACT

Objective: To determine the perception of heart failure patients of their illness and factors affecting their illness perception.

Methodology: This cross sectional study was conducted at Cardiology Clinic, of University Hospital, Turkey from November 2015 and January 2016.Adult patients over 18 years of age, who were diagnosed with HF at least 18 months ago, and had no speech disorder and psychiatric disorder were included in the study. Personal Information Form and Illness Perception Questionnaire (IPQ) were used for data collection. In the analysis of the data, percentiles, t-test, Mann-Whitney U-test and Kruskal Wallis test was used.

Results: Total of 200 patients were included in the study. Of the illness perception scale's sub-scales, the mean score taken in the disease symptoms was 7.36 ± 2.72, and for the views about the illness scale, the mean scores were as follows: personal control 20.97 ± 4.85, timeline (acute/chronic) 21.72 ± 6.15, emotional representations 24.67 ± 6.21, illness coherence 17.46 ± 3.95, consequences 20.84 ± 4.94, treatment control 19.20 ± 3.97, timeline (cyclical) 13.77 ± 2.74. Mean scores of psychological attributions (14.30 ± 4.74), risk factors (17.23 ± 4.37), immunity (8.42 ± 2.55) accident and chance (4.49 ± 1.76) represented the cause of illness sub scale.

Conclusion: It was determined that the introductory features of the patients and the introductory features of the disease affected the disease perception in different sub-dimensions

Key Words: Heart Failure, Illness Perception, Nurse.

INTRODUCTION

Heart failure (HF) is a significant health problem due to its ever increasing prevalence, incidence as well as its very high morbidity and mortality rates.[1-3] Increased prevalence of diseases such as hypertension, dyslipidemia, diabetes mellitus, etc., and prolonged lifespan caused by the new treatment options of ischemic heart diseases also increase the incidence of heart failure. According to the HAPPY study conducted, there are more than 2 million people have heart failure (HF) in Turkey.[2] The American Heart Association estimates that 5.8 million people had heart failure in 2011 and there will be a 46% increase in HF between 2012 and 2030, leading to more than 8 million individuals with HF in the 18-years and over age group in the US.[1,3] It is expected that prevention of heart failure-induced mortality and burden of disease will become a global health priority.

When a person receives a diagnosis of a chronic illness such as heart failure, a cognitive and emotional assessment begins. And, this leads to the illness perception. The illness perception is a concept that has a direct impact on the individuals' experiences in the course of their illness, the disease process, beliefs, values, coping mechanisms and psychopathology[4] At the same time, it refers to the perception of the meaning and importance of a disease that threatens the health of the individual.[5]

Effects of illness perception on continued cardiac rehabilitation, re-hospitalization, coping, and treatment compliance has been reported before.[4-7]

Nurses can help patients in adherence to treatment by assessing the patient's illness perception and effective factors. They can correct the misinformation and incorrect approaches about the disease and treatment, and they can contribute positively to illness perception by determining the positive and negative illness perception, providing training to patients.

This study was conducted to determine the perceptions of patients with heart failure about the disease as well as determining the factors affecting this perception.

METHODOLOGY

This cross sectional study was conducted at Cardiology Clinic of University Hospital, Turkey. Study data were collected between November 2015 and January 2016. The study population consisted of inpatients with HF, who were admitted to the clinic in the specified dates. Adult patients over 18 years of age, who were diagnosed with HF at least 18 months ago, and had no speech disorder and psychiatric disorder were included in the study.

The study data were collected using a questionnaire, which was developed to determine characteristics of the disease and patients, and the Illness Perception Questionnaire (IPQ) to determine their perceptions about the illness. Data were collected through face-to-face interview method. The interviews lasted approximately 10 minutes.

The personal information form (age, gender, marital status, place of residence, education status, income status, employment status, time of diagnosis of heart failure, history of heart failure in the family, the presence of comorbid disease, hospitalization status, health check status and the stage of heart failure) was developed in accordance with the literature and consisted of 13 items.[8,9]

Illness Perception Questionnaire (IPQ) scale was developed by Weinmann in 1996, and revised in 2002 by Moss-Morris et al.[10,11] Its Turkish validity and reliability study was conducted by Kocaman et al. in 2007.[12] It includes symptoms of illness, views about illness and causes of illness dimensions.

1. Symptoms of illness dimension: 14 common symptoms (pain, burning in the throat, nausea, difficulty in breathing, weight loss, fatigue, stiff joints, sore eyes, wheezing, headache, upset stomach, dizziness, sleep difficulties, loss of strength). For each of these symptoms, the person is first asked 'whether he or she has experienced them since the onset of the illness', and then 'whether or not he or she considered this related to the illness.' In this dimension, two questions for each symptom are responded with either yes or no. A higher score in this dimension indicates that the patient has a strong belief he/she has higher number of symptoms associated with the disease.

2. Views about illness dimension: It consists of thirty-eight items, and uses five-point Likert-type scale. This dimension includes seven sub-scales. These are named as timeline (acute/chronic), consequences, personal control, treatment control, illness coherence, timeline (cyclic), and emotional representations.

3. Causes of illness dimension: It's a Likert-type scale, consisting of 18 items, containing the possible causes in the formation of diseases. This dimension investigates the thoughts of a person about possible causes of his/her illness, and consists of four sub-scales. In the Turkish validity and reliability study of the scale, the Cronbach's alpha coefficient of the views about the illness sub-scale wasfound to be between 0.69 and 0.77, and the Cronbach's alpha coefficient of the causes of illness sub-scale was in the range of 0.25 and 0.72.[12]In this study, Cronbach's alpha value was found to be 0.828 for "Symptoms of Disease", 0.851 for "Views about Illness", and 0.700 for "Causes of Illness" sub-scales respectively.

The coding and statistical analyzes of the data were performed on the computer in the SPSS 18.0 package. In the analysis of the data, percentiles, t-test, Mann-Whitney U-test and Kruskal Wallis test was used.

Before conducting the research, approval from the Ethics Committee of Atatürk University Faculty of Health Sciences as well as written permission from the hospitals were obtained. And, written consent of the patients who met the research inclusion criteria were also obtained after informing them about the purpose of research.

RESULTS

Total of 200 patients were included in the study . Looking at the introductory characteristics of the patients, it was determined that 28.5% was in the 61-70 age group. 51% was males, 78.5% married, 58.5% were living in the city center, 42% was primary school graduate, 74.5% had balanced income and 82.5% were unemployed. Considering the characteristics of the disease, it was found that 77.5% had comorbid disease, 34% was going to the check ups every 3 months, 87% was hospitalized due to heart failure. 49% had heart failure functional class NYHA II and 62% had a history of heart failure in the family.

The mean sub-scale score of symptoms of illness of individuals was 7.36 ± 2.72. When the sub-scales on the patients' opinions about the disease were examined, it was determined that the mean emotional representations and duration (acute/chronic) perception scores were higher than other sub-scales. Time (cyclic) perception and illness coherence mean scores were found to be the lowest. When the causes of illness sub-scale was examined, it was determined that the patients considered risk factors as the most influential factor causing diseases (Table 1).

When the symptoms of illness sub-scale of the IPQ was examined, it was determined that the patients mostly had symptoms of fatigue, loss of power and difficulty in breathing since the onset of the disease, and believed that these symptoms are related to their illness. Patients were found to have the symptoms of burning in the eyes and weight loss mostly, and it was determined that burning in the eyes and burning in the throat were the symptoms least associated with the disease (Table 2).

Table 1: Illness Perception Scale Score Distribution (n=200)

		n	Min	Max	Mean	SD
1. Symptoms of illness		200	0.00	14.00	7.36 ±	2.72
2. Views about the disease	Timeline (Acute/Chronic).	200	6.00	30.00	21.72±	6.15
	Consequences	200	6.00	30.00	20.84±	4.94
	Personal Control	200	7.00	30.00	20.97±	4.85
	Treatment Control	200	6.00	25.00	19.20±	3.97
	Illness coherence	200	5.00	25.00	17.46±	3.95
	Timeline (Cyclic)	200	6.00	20.00	13.77±	2.74
	Emotional Representations	200	9.00	35.00	24.67±	6.21
3. Causes of illness	Psychological Attributions	200	6.00	30.00	14.30±	4.74
	Risk Factors	200	8.00	31.00	17.23±	4.37
	Immunity	200	3.00	14.00	8.42±	2.55
	Accident or Chance	200	2.00	10.00	4.49±	1.76

Table 2: Symptoms of Illness and Distribution of their Association with the Disease (n=200)

Symptoms	''I experienced this symptom since the start of illness''		''This symptom is specifically related to my illness''	
	n	%	n	%
Pain	146	73.0	140	70.0
Sore throat	65	32.5	58	29.0
Nausea	67	33.5	61	30.5
Breathlessness	157	78.5	156	78.0
Weight change	60	30.0	60	30.0
Fatigue	184	92.0	182	91.0
Stiff joints	71	35.5	69	34.5
Sore eyes	58	29.0	51	25.5
Wheeziness	134	67.0	132	66.0
Headache	110	55.0	104	52.0
Upset stomach	90	45.0	79	39.5
Sleep difficulties	131	65.5	129	64.5
Dizziness	94	47.0	90	45.0
Loss of strength	163	81.5	160	80.0

Table 3: Mean Scores of Disease Type and Disease Related Opinions According to the Introductory Characteristics of Patients (n=200)

Characteristics	n	Symptoms of Illness Mean	SD	Views: Timeline (Acute/Chronic) Mean	SD	Consequences Mean	SD	Personal Control Mean	SD	Treatment Control Mean	SD	Illness coherence Mean	SD	Timeline (Cyclic) Mean	SD	Emotional Representations Mean	SD
Age																	
40 and below	11	6.91	2.88	17.18	6.91	17.36	7.34	21.55	4.68	19.64	4.84	17.73	5.42	13.64	3.53	24.55	8.35
41-50	22	7.09	2.58	19.73	7.31	17.86	4.89	21.41	3.96	19.55	3.80	17.45	3.42	14.14	2.42	23.23	6.35
51-60	43	7.12	2.63	21.65	6.17	19.86	4.77	20.84	5.34	18.19	5.08	17.47	3.53	13.40	3.27	23.30	6.07
61-70	57	7.77	2.63	22.19	5.63	21.74	4.93	21.63	4.57	19.91	3.47	17.60	3.80	13.95	2.55	25.32	6.60
71-80	46	7.24	3.02	23.00	5.82	22.22	4.17	19.43	5.34	19.02	3.39	17.26	4.39	13.72	2.47	25.57	5.44
81-90	21	7.48	2.64	22.24	5.56	22.33	2.96	22.00	4.00	19.14	3.55	17.38	4.21	13.81	2.71	25.33	5.58
Significance		$F=0.544$ $p=0.809$		$x^2_{KW}=9.532$ $p=0.090$		$x^2_{KW}=21.472$ $p=0.001$		$x^2_{KW}=6.456$ $p=0.264$		$x^2_{KW}=3.698$ $p=0.594$		$x^2_{KW}=0.348$ $p=0.997$		$F=0.292$ $p=0.917$		$x^2_{KW}=5.683$ $p=0.338$	
Gender																	
Famele	98	7.96	2.69	21.93	6.61	20.53	5.32	21.09	4.79	19.34	3.59	17.48	4.00	13.93	2.76	25.05	6.58
Man	102	6.77	2.62	21.52	5.70	21.14	4.56	20.84	4.93	19.07	4.33	17.44	3.92	13.61	2.72	24.30	5.85
Significance		$t=3.152$ $p=0.002$		$U=4600.500$ $p=0.330$		$U=4709.000$ $p=0.478$		$U=4816.500$ $p=0.656$		$U=4968.000$ $p=0.941$		$U=4971.000$ $p=0.947$		$t=0.827$ $p=0.409$		$U=4614.000$ $p=0.347$	
Marital Status																	
Married	157	7.22	2.65	21.66	6.08	20.78	4.86	21.10	4.71	19.08	4.10	17.45	3.83	13.85	2.63	24.62	6.07
Single	43	7.86	2.93	21.93	6.47	21.07	5.31	20.47	5.34	19.65	3.48	17.51	4.40	13.47	3.11	24.84	6.77
Significance		$t=-1.381$ $p=0.169$		$U=3219.000$ $p=0.641$		$U=3188.500$ $p=0.577$		$U=3162.500$ $p=0.524$		$U=3164.00$ $p=0.528$		$U=3282.500$ $p=0.781$		$t=0.810$ $p=0.419$		$U=3303.500$ $p=0.830$	
livingplace																	
City	117	7.32	2.71	22.12	6.01	20.65	5.21	20.93	4.92	19.29	4.08	17.42	3.99	13.47	2.92	23.79	6.27
District	36	7.33	2.70	21.78	5.94	20.94	4.30	21.17	4.35	18.69	4.25	17.92	3.64	14.14	2.17	24.89	5.71
Village	47	7.45	2.80	20.68	6.65	21.23	4.79	20.89	5.13	19.36	3.50	17.21	4.11	14.21	2.62	26.70	6.07
Significance		$F=0.035$ $p=0.966$		$x^2_{KW}=1.265$ $p=0.531$		$x^2_{KW}=0.468$ $p=0.791$		$x^2_{KW}=0.054$ $p=0.973$		$x^2_{KW}=0.520$ $p=0.771$		$x^2_{KW}=0.592$ $p=0.744$		$F=1.654$ $p=0.194$		$x^2_{KW}=7.390$ $p=0.025$	
Education Status																	
Illiterate	66	7.98	2.65	22.80	6.29	21.83	4.47	20.62	4.78	19.50	3.43	17.47	4.12	13.71	2.99	25.36	6.53
Literate	28	7.43	2.67	22.50	5.27	22.43	4.02	20.32	4.46	18.39	3.84	17.64	3.60	14.36	2.26	26.82	4.66
Elementary School	84	7.21	2.71	21.55	5.65	20.52	4.67	21.18	4.94	18.90	4.38	17.36	3.87	13.87	2.52	24.13	6.10
High school and over	22	5.91	2.52	18.14	7.46	17.05	6.38	22.00	5.30	20.45	3.91	17.59	4.39	12.77	3.19	21.91	6.49
Significance		$F=3.468$ $p=0.017$		$x^2_{KW}=9.645$ $p=0.022$		$x^2_{KW}=14.675$ $p=0.002$		$x^2_{KW}=2.449$ $p=0.485$		$x^2_{KW}=4.350$ $p=0.226$		$x^2_{KW}=0.034$ $p=0.998$		$F=1.458$ $p=0.227$		$x^2_{KW}=8.692$ $p=0.034$	
Income Status																	
Income<Expenses	46	7.63	2,94	21.85	6,21	22.48	4.85	21.00	5,00	19.33	4,30	16.98	4,23	14,39	2,81	26.22	6,57
Income=Expenses	149	7,30	2,65	21,80	6,07	20,41	4,89	20,91	4,80	19,21	3,85	17,69	3,87	13,57	2,69	24,13	6,09
Income>Expenses	5	6,40	2,88	18,20	8,11	18,60	4,83	22,40	5,77	17,80	5,07	15,00	2,92	13,80	3,35	26,60	4,28
Significance		$F=0,572$ $p=0,566$		$x^2_{KW}=1,132$ $p=0,568$		$x^2_{KW}=7,631$ $p=0,022$		$x^2_{KW}=0,261$ $p=0,878$		$x^2_{KW}=0,684$ $p=0,710$		$x^2_{KW}=3,889$ $p=0,143$		$F=1,589$ $p=0,207$		$x^2_{KW}=4,454$ $p=0,108$	
Working status																	
Yes	35	7.34	2.84	21.31	5.17	20.17	4.79	20.49	4.64	17.57	4.90	16.60	3.60	13.54	2.91	22.69	6.01
No	165	7.36	2.70	21.81	6.35	20.98	4.98	21.07	4.90	19.55	3.67	17.64	4.00	13.81	2.71	25.09	6.19
Significance		$t=-0.029$ $p=0.977$		$U=2602.000$ $p=0.357$		$U=2545.000$ $p=0.269$		$U=2609.000$ $p=0.368$		$U=2199.000$ $p=0.026$		$U=2404.500$ $p=0.119$		$t=-0.527$ $p=0.598$		$U=2161.000$ $p=0.019$	

Table 4: Mean Scores of Disease Type and Disease Related Opinions According to the Disease Characteristics (n=200)

| Characteristic | Symptoms of illness | | | Views about the disease | | | | | | | | | | | | | |
	n	Mean.	SD	Time line (Acute/Chronic) Mean	SD	Consequences Mean	SD	Personal Control Mean	SD	Treatment Control Mean	SD	Illness coherence Mean	SD	Timeline (Cyclic) Mean	SD	Emotional Representations Mean.	SD
Heart disease in the family																	
Yes	124	7.64	2.64	22.60	6.03	21.15	4.80	20.79	4.95	19.15	4.03	17.38	3.70	13.94	2.66	24.95	6.20
No	76	6.89	2.80	20.29	6.11	20.34	5.16	21.25	4.70	19.28	3.90	17.59	4.34	13.47	2.86	24.21	6.25
Significance		t=1.888 p=0.060		U=3525.500 p=0.003		U=4322.000 p=0.324		U=4410.500 p=0.445		U=4654.00 p=0.884		U=4504.500 p=0.600		t=1.179 0.240		U=4365.500 p=0.382	
Duration of diagnosis	n	Mean.	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean.	SD
1-10	160	7.39	2.77	20.98	6.09	20.28	5.00	20.59	4.52	18.88	4.00	17.12	3.92	13.54	2.83	24.43	6.25
10-20	13	6.69	1.70	23.77	5.63	22.54	3.13	23.00	6.67	21.23	3.79	19.31	4.70	15.08	1.50	26.62	5.81
20-30	19	6.89	2.60	25.37	4.46	23.63	3.74	23.11	4.76	20.68	3.37	19.32	2.75	14.95	1.61	25.11	5.96
30-40	8	8.88	3.04	24.50	7.84	22.75	5.97	20.00	6.70	18.88	3.94	16.88	4.29	13.38	3.46	25.38	7.09
Significance		F=1.288 p=0.280		x^2_{KW}=15.640 p=0.001		x^2_{KW}=9.893 p=0.019		x^2_{KW}=11.389 p=0.010		x^2_{KW}=6.933 p=0.074		x^2_{KW}=11.577 p=0.009		F=2.663 p=0.049		x^2_{KW}=2.384 p=0.497	
Co morbid disease presence	n	Mean.	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean.	SD
No other illness	45	6.62	2.41	19.76	6.98	18.71	5.96	20.89	4.81	19.11	4.15	19.20	3.97	13.00	2.79	21.93	6.57
Hypertension	73	7.84	3.10	21.62	5.88	20.36	4.57	20.58	4.88	18.55	4.18	17.62	4.22	13.60	2.97	25.58	6.21
Diabetes	40	7.88	2.27	22.95	6.40	22.48	4.37	21.08	4.93	19.60	3.99	17.36	3.98	14.50	2.53	25.85	5.54
Respiratory system diseases	15	6.60	2.38	20.93	5.46	22.47	4.24	22.60	4.05	19.67	2.61	13.00	.	14.67	1.11	25.20	5.44
Kidney diseases	6	4.83	1.47	22.33	3.61	24.33	3.20	21.17	4.12	19.17	5.04	17.20	3.57	13.50	3.51	26.33	5.89
Gastrointestinal diseases	4	9.00	3.27	24.00	6.93	22.00	4.97	25.50	4.36	23.25	1.71	18.33	3.83	13.75	4.50	25.50	6.95
Other	17	7.17	2.32	24.41	4.14	21.76	3.65	20.00	5.47	19.94	3.15	17.12	5.02	14.06	1.98	24.00	6.07
Significance		F=2.604 p=0.019		x^2_{KW}=9.105 p=0.168		x^2_{KW}=16.062 p=0.013		x^2_{KW}=5.861 p=0.439		x^2_{KW}=7.891 p=0.246		x^2_{KW}=6.564 p=0.363		F=1.441 p=0.201		x^2_{KW}=10.741 p=0.097	
Hospitalization	n	Mean.	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean.	SD
Yes	174	7.48	2.64	22.41	5.79	21.11	4.83	20.92	4.92	19.41	3.93	17.49	4.02	13.83	2.70	24.80	6.28
No	26	6.54	3.11	17.12	6.57	19.04	5.44	21.27	4.44	17.81	4.03	17.23	3.46	13.31	3.02	23.81	5.78
Significance		t=1.651 p=0.100		U=1179.500 p=0.000		U=1779.500 p=0.078		U=2150.500 p=0.684		U=1704.500 p=0.042		U=2001.500 p=0.342		t=0.913 p=0.363		U=1991.500 p=0.324	
Phase	n	Mean.	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean.	SD
NYHA I	74	6.30	2.39	18.97	6.69	19.11	5.51	21.91	4.55	19.32	4.39	17.36	4.49	13.01	2.97	23.77	6.14
NYHA II	98	8.00	2.81	23.36	5.12	21.72	4.28	20.84	4.80	19.20	3.56	17.61	3.37	14.28	2.56	24.73	6.31
NYHA III	28	7.89	2.36	23.25	5.55	22.32	4.36	18.93	5.27	18.86	4.32	17.18	4.42	13.96	2.30	26.82	5.71
Significance		F=9.706 p=0.000		x^2_{KW}=22.468 p=0.000		x^2_{KW}=12.504 p=0.002		x^2_{KW}=6.543 p=0.038		x^2_{KW}=0.358 p=0.836		x^2_{KW}=0.060 p=0.970		F=4.736 p=0.010		x^2_{KW}=5.154 p=0.076	

Mean symptoms of illness and views about illness sub-scale scores according to the introductory characteristics of patients are shown in table 3. In the gender-based comparison, the mean risk factor perception scores of the males were found to be higher (p<0.05). It was determined that the mean symptoms of illness sub-scale score of female patients was higher, with a statistically significant difference (p<0.05).

When the mean scores of immunity perception were examined according to the age groups of the patients, it was found that the mean scores of the patients in the 71-80 age group were higher, the patients in 81-90 age group had the highest mean scores in the consequences perception, with a statistically significant difference (p<0.05).

When the mean scores of emotional representations perceptions were examined according to the residential places of the patients, the mean scores of the patients who live in villages were found to be higher, with a statistically significant difference (p<0.05).

The difference between education status and symptoms of illness, duration (acute / chronic), consequences and emotional representation perceptions were found to be statistically significant (p <0.05) and the symptoms of illness and duration (acute/chronic) perception scores of the illiterate patients were found to be higher, whereas the mean scores of consequences and emotional representation perceptions were found to be higher in literate patients .

The mean consequences score of the patients with unbalanced income were higher, with a statistically significant difference (p<0.05).

According to the employment status of the patients, the mean scores of treatment control and emotional representations were found to be higher in unemployed patients, with a statistically significant difference (p<0.05).

The mean duration (acute/chronic) perception score of patients with a history of heart disease in the family was higher, with a statistically significant difference (p<0.05). According to the time of diagnosis, there was a significant difference in mean scores of duration (acute / chronic), consequences, personal control, illness coherence, time (cyclic) perceptions (p<0.05); and, duration (acute/ chronic), consequences, illness coherence and personal control perceptions were higher in those diagnosed before 20-30 years, whereas the mean time (cyclic) perception score was higher in those diagnosed 10-20 years ago (Table 4).

There was a statistically significant difference in symptoms of illness and consequences mean scores in terms of presence of a comorbid disease (p<0.05); and, according to health checks, the mean scores of the symptoms of illness, duration (acute/chronic) and consequences perceptions were found to be lower in those who had no health checks, with a significant difference compared to those in other groups. The mean duration (acute/chronic), consequences and personal control perception scores were higher in patients hospitalized due to heart failure, and the difference was statistically significant (p<0.05). In the comparison of symptoms of illness, duration (acute/ chronic), consequences, personal control and time (cyclic) perception mean scores according to the functional classification of participants, the difference was found to be statistically significant (Table 4).

DISCUSSION

Experiences of the individuals in the course of their illness, the disease process and coping mechanisms are different in each person, and individuals try to explain their illnesses in the light of their values, beliefs and needs.[12,13] An individual's perception affects the condition of the disease and well-being of the individual.

When the mean illness perception scores of the patients with heart failure were examined, the mean "symptoms of illness" sub-scale score was found to be 7.36±2.72; and, it was found that the mostly experienced symptom was fatigue (92%) and the majority (91%) of the patients, experiencing fatigue, were found to relate this symptom with their disease. In a study conducted by Aalto et al. with patients with heart failure the mean symptoms of illness sub-scale score has been reported to be 8.16±5.29; and it has been reported to be 5.79±3.01 in a study by Morgan et al. conducted with patients with heart failure.[13,14] This result indicates that the patients have experienced these symptoms since the onset of the illness and related these symptoms to their illness. In line with this information, patients can be informed about how to recognize symptoms of heart failure, how to monitor the symptoms in order ensure adequate knowledge about the disease and develop illness coherence and ensure management of the disease.

When the patients' opinions about the disease were examined, it was determined that the highest score was in the emotional representations sub-scale. This result indicates that patients' anxiety about their illness was excessive and adversely affected. In cardiovascular disease, patients were reported to be more concerned about their illness, and experienced stress as a result according to the previous studies[13-15] Individuals' excessive anxiety about their illness can lead to stress and lacking focus on treatment. The excess anxiety of patients can be caused by the inadequate knowledge about their illness. For this reason, patients need to be informed; and in this regard, nurses have important role in providing information to patients and families. Through the training provided to the patients and families, patients' compliance with the disease management and treatment can be increased as well as developing positive perceptions.[16,17]

In this study, the duration (acute/chronic) perception score

of the patients was also high. This result shows that patients believe their heart failure is chronic and that it will last for a long time. Cherrington et al. , Bahçecioglu and Akyıl, Aalto et al. , Godman at al. and Stafford et al. have also reported similar results in their study.[6,13,15,18,19] This result suggests that individuals consider their illness as a chronic illness and it is important for them to understand the necessity of maintaining treatment.

In the study, the sub-scale with the lowest score was found to be time (cyclic) perception sub-scale. Similar findings were also reported in a study conducted by Karabulutlu and Karaman with patients with cancer, in a study by Bahçecioglu and Akyıl conducted with asthmatic patients and a study by Morgan et al. (2014) carried out with patients with heart failure.[14,18,20] Another important finding is that the patients' illness perception was low. The findings of this study are consistent with the results of previous studies[6,18,20,21] This result suggests that the patients do not have enough knowledge about their illnesses.

It was determined that patients consider the risk factors as the most effective causes of disease. Among the risk factors, stress and anxiety were found to be responsible for the emergence of the disease.

It was determined that some of the introductory characteristics of the patients and some of the disease related characteristics caused differences in the views about illness and causes of illness sub-scales. In this study, the symptoms of illness sub-scale score of female patients was found to be higher. The findings of this study are in line with the findings of other studies[13,19,22].This conclusion suggests that women may associate the symptoms, which are not associated with heart failure (such as headache, joint pain), with heart failure. In this study, the consequences perception of patients in the 81-90 age group were found to be higher. This suggests that factors such as difficulty in self-care, increased dependence on others and weakening of perception with increasing age may be effective in this result.[23]

It was found that the perception of emotional representations was higher in individuals who live in villages. The lack of well-equipped health facilities in the villages, additional burden of transportation to and from the city may affect the patients negatively.

Symptoms of illness, duration (acute / chronic), consequences and emotional representations scores were found to be higher in patients with low educational level. It can be suggested that ability to cope with disease increases with increasing level of education. The findings of this study are consistent with the results of previous studies.[24,25]

The treatment control and emotional representations perceptions were found to be higher in those who were unemployed. The group of employed patients is reported to have more opportunities to express themselves and to distribute their attention to different areas[25] It was also found in this study that unemployed patients with heart failure suffered more emotionally by their illness and associated their physical complaints to their illnesses and the causes of illness to their stress, anxiety, personality traits, etc. compared to the employed patients.

The duration (acute/chronic) perception scores of patients with a history of heart disease in the family was significantly higher. Usually, individuals have an opinion about the nature of the disease either based their own or relatives' experiences, and these past experiences affect the current response to disease.[26] This result may show that those with a history of heart disease in the family have an idea about the progress of the disease.

The mean scores of symptoms of illness and consequences perception were found to be higher among those having comorbid diseases. Comorbid diseases affect many parameters of patients with heart failure, including life expectancy, quality of life, treatment tolerance and hospitalization rates[27,28]For these reasons, emerging numerous symptoms due to comorbid diseases can lead to a decrease in quality of life and perceived severe consequences.

The time (acute/chronic) perception and treatment control scores were found to be higher in patients hospitalized due to heart failure ($p < 0.05$). This result may suggest that increased awareness about the severity of the disease also increases the disease management and adherence to treatment in hospitalized patients.

As the functional classification phase increases, the symptoms of illness, duration (acute / chronic) and consequences perception score averages also increase, but the personal control score average decreases. This may be due to increased number of symptoms experienced as the severity of disease increases, leading to decrease in the ability of patients to control as a result of impairment in physical, social and psychological functions.

CONCLUSION

In the light of these results, it is recommended to address the symptoms perceived by the patients, implement nursing interventions for helping them develop a sense of control, informing them about the nature of the disease as well as the treatment and side-effects, implement interventions towards the change of negative perceptions of the patients to eliminate the problems experienced during the treatment, and to improve the adherence to treatment.

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