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Investigation of Psychosocial Problems and Quality of Life Experienced in Cardiovascular Surgery Patients

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Abstract

Aim: This descriptive cross-sectional study was carried out to investigate the psychosocial problems and quality of life experienced by patients undergoing cardiovascular surgery.

Methods: The study was carried out with 101 patients who underwent cardiovascular surgery in a tertiary hospital between August 2017 and January 2018. As a data collection tool, patient data collection form which was created by the researchers, and 36-Item Short-Form Health Survey Questionnaire Quality of Life Scale were used. Number, percent distributions, Mann–Whitney *U* test, and Kruskal–Wallis test were used in the analysis of the data.

Results: The mean age of the patients was 58.7 ± 13.8 years, 61.4% were males, 84.2% were married, and 40.6% were university graduates. The mean quality of life scores of the patients was between 50.69 ± 19.82 and 65.98 ± 16.58. The 36-Item Short-Form Health Survey Questionnaire Quality of Life Subscale mean scores of patients who were female, illiterate, had open-heart surgery, had previous hospitalization experience, experienced preoperative anxiety, and had difficulty in fulfilling their roles and responsibilities were found to be lower.

Conclusion: With this study, it was determined that patients undergoing cardiovascular surgery experience psychosocial problems, and their quality of life related to this surgery was adversely affected. It is recommended to provide regulations for the services of both hospital administrations and health professionals regarding these problems, to increase their awareness training, and to make patient-oriented planning.

Keywords: Cardiovascular surgery, nurse, patient, psychosocial problem, quality of life

Introduction

Cardiovascular diseases are the leading cause of death across the world.[1] Diseases affecting the circulatory system constitute 36.8% of all causes of death in Turkey as well, according to 2019 data.[2] Literature showed that having a chronic disease led to many psychological changes in an individual resulting in adverse outcomes.[3,4] Similarly, psychosocial risk factors were reported to contribute to the development of chronic conditions, especially cardiovascular diseases.[5,6] Psychosocial risk factors include conditions such as lack of social support, isolation, low income, changes in family relationships, job loss, chronic family or work stress, negative emotions (chronic depression, acute anxiety, etc.), personality disorder, and sleep disturbance.[6,7] These risk factors cause either direct effects on the cardiovascular disease through immune or neuroendocrine effects or indirect effects by limiting adherence to treatment and care.[7] Yıldırım and Öztürk[5] stated that the relationship between psychiatry and cardiovascular diseases was complex.[5] In the study by Ersan et al.[6] it was found that psychosocial adaptation was impaired in patients with cardiovascular diseases and that depression, panic disorder, anxiety, and stress levels were higher.[6] The relationship between depressive symptoms and cardiovascular diseases has been established in the literature and a relationship was found between depression and increased mortality in these patients.[6-8]

Cardiovascular surgery is among the major surgical interventions involving a complex process in the presence of life-threatening complications.[9] Cardiovascular surgery deals with more complicated interventions and clinically more serious patients in parallel with technological and medical advances.[10] Patients dread the complication risk and high mortality rate of cardiovascular surgery.[11] These patients often have high levels of anxiety and stress. It is important to carry out the recovery process of patients

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undergoing cardiovascular surgery in cooperation with healthcare professionals, and effective care of these patients requires specific, safe, and continuing practices.[9,11,12] Besides, detailed patient evaluation, patient and family education, regulation of nutrition and diet program, hemodynamic monitoring, performing respiratory exercises, and early mobilization are important during this process. In addition, regulation of fasting period prior to surgery, pain management, early extubation, providing and maintaining fluid balance, prevention of hypothermia and neurologic disorders, removing the catheter and surgical drains, nausea control and early oral/enteral nutrition, and prevention of delirium and convulsions are practices essential for effective care.[9-11] In this complex process, one of the most important members of the treatment and care team of the patient is the nurse.[9,12] Nurses need to plan and implement nursing care by considering the changes in quality of life and the psychosocial problems that may develop in patients undergoing cardiovascular surgery. To evaluate patients before surgery and knowing well the patient by taking effective history will facilitate early diagnosing of signs and symptoms by comparing pre-and post-surgical alterations, as well as assessing the current psychosocial status and quality of life perception of the patient.

Nurses can provide effective preoperative education and contribute to the development of positive patient outcomes by providing a sense of trust in the patient through effective communication. A nurse can provide technical care in accordance with professional knowledge by monitoring the patient carefully during the postoperative period and can prevent complications. In addition, the patient's anxiety can be reduced and the patient's participation in treatment and care can be increased via the psychological support provided by the nurse, thus contributing to the development of positive patient outcomes.[13,14]

Aim

Identification of problems experienced by patients is an important step in providing effective nursing care. Based on the strong relationship between psychosocial problems and quality of life in patients with cardiovascular diseases, this study was conducted to determine the probable psychological problems and changes in the quality of life of patients prone to experience many complex processes such as surgery. Being familiar with the psychosocial problems and the changes in quality of life of patients is important in planning individual nursing care. Additionally, it will help to consider the changes experienced by the patient, to activate support resources, to detect the signs and symptoms of patients early, and to activate other health professionals for collaboration.

Research Questions

- Do cardiovascular surgery patients experience psychological problems?
- How is the quality-of-life evaluation of cardiovascular surgery patients done?
- Is there a relationship between the sociodemographic characteristics and psychosocial problems of cardiovascular surgery patients and the sub-dimensions of quality of life?

Material and Methods

Type of the Study

This study is a descriptive cross-sectional study.

Place and Time of the Study

This study was carried out in a cardiovascular surgery inpatient unit of a tertiary hospital between August 2017 and January 2018. In this unit, surgical interventions such as coronary bypass surgery, heart valve replacement, left ventricular assist device (LVAD) implantation, heart transplantation, congenital heart defect and varicose vein surgery, carotid endarterectomy, endovascular aneurysm repair (EVAR), and thoracic EVAR are performed.

Population and Sample of the Study

The sample of the study consisted of 101 adult patients aged 18 years and over, who were able to communicate, who participated in the study voluntarily, who were hospitalized in the cardiovascular surgery ward, and who underwent cardiac surgery (coronary bypass, heart valve replacement, LVAD implantation, heart transplantation, congenital heart defect surgery and varicose vein surgery, carotid endarterectomy, and EVAR).

Data Collection Tools

Data were collected by using "Patient's data collection form" prepared by the researchers based on the literature, and the 36-Item Short-Form Health Survey Questionnaire (SF-36), which is widely used to evaluate the quality of life of patients.

Patient's Data Collection Form

The form consists of 2 parts with a total of 28 questions. The first part includes 14 questions to determine the sociodemographic characteristics of the patients. The second part of the form consisted of a total of 14 questions which aimed at addressing the psychosocial problems experienced by the patients after cardiovascular surgery, including open-ended questions about patients' situations of experiencing changes in intra-familial process, social relationship, professional life, and psychological impacts of changes on individuals and sources of social supports.

The 36-Item Short Form Health Survey questionnaire (SF-36)

The questionnaire was developed by Ware and Sherbourne[15] in 1992 to determine the health perception of individuals in clinical practices and research. The Cronbach's alpha coefficient of the questionnaire was found to be higher than 0.85 for all dimensions. The questionnaire was adapted into Turkish by Koçyiğit et al[16] in 1999, and the Cronbach's alpha coefficient of subdimensions in the Turkish version ranged between 0.7324 and 0.7612.[16] The SF-36 is a self-report, generic measure of health. The questionnaire consists of a total of 36 items and 8 sub-dimensions. The sub-dimensions of the SF-36 are physical function (10 items), physical role function (4 items), emotional role function (3 items), energy/vitality (4 items), mental health (5 items), social function (2 items), body pain (2 items), and general health perception (5 items).

The questionnaire, which has no overall score, is scored between 0 and 100 points for each sub-dimension, and higher scores indicate better quality of life. Cronbach's alpha coefficients of physical function, physical role function, emotional role function, energy/vitality, mental health, social function, body pain, and general health perception sub-dimensions of the questionnaire for this study were 0.92, 0.85, 0.80, 0.68, 0.62, 0.71, 0.84, and 0.77, respectively.

Data Collection

Data were collected between August 2017 and January 2018. The data collection form was given by the researchers to the patients who met the inclusion criteria of the study, and the forms were taken back after filling out by patients. The data collection forms of the patients who were illiterate or did not want to fill out the form by themselves were completed by the researchers using the face-to-face interview method. Filling out the data collection form took about 15-20 minutes.

Ethical Considerations

This study was approved by the Non-Interventional Clinical Research Ethics Committee of Başkent University (decision number: KA17/191, date: July 12, 2017, and no: 17/62), and research permission was granted from the institutional review board of the hospital selected for the study. During the data collection phase, consent was obtained from the participants after being informed about the purpose, content, method, scope, and duration of the study, and data privacy. The names of the participants were not specified in the forms, and all personal information was kept confidential. This study was conducted in accordance with the Helsinki Declaration principles.

Data Analysis

Data were analyzed using International Business Machines Statistical Package for the Social Sciences software 20.0 package program (IBM SPSS Corp.; Armonk, NY, USA). The normal distribution of the data was evaluated with the Kolmogorov–Smirnov test. Continuous variables were expressed as mean ± standard deviation and categorical variables as numbers (percentage). Student's *t*-test was used to compare the normally distributed variables between groups, and the Mann–Whitney *U* test and Kruskal–Wallis test were used to compare the non-normal distributions. A *P*-value less than .05 was considered statistically significant.

Results

The mean age of the participants was 58.71 ± 13.84 years, 61.4% were male, 84.2% were married, and 40.6% were university graduates. It was found that the income of 56.4% of the patients was equal to their expenses, 64.4% lived in the city center, 71.3% underwent open-heart surgery, and 28.7% had vascular surgery. The mean hospitalization days of the patients was 10.86 ± 1.38 days. It was detected that 75.2% of the patients had a previous history of hospitalization. It was determined that 68.3% of the patients had limitations in physical functions and difficulty in performing daily living activities due to health problems during the preoperative period; the causes of physical limitation were reported by the patients as shortness of breath (47.8%), fatigue and weakness (27.5%), and pain (24.6%), respectively. It was found out that 63.4% of the postoperative patients were able to perform daily living activities independently and 35.6% with the help of others, while 1.0% were completely dependent (Table 1). Results revealed that 41.6% of the patients had experienced anxiety during the preoperative period due to fear of death (35.7%), fear of surgical risk and complication (33.6%), and concerns about changes in daily life during the postoperative period (31.0%) (Table 1). Of the participants; 48.5% expressed that they experienced problems related to the postoperative period. Of the 35 patients who explained the reasons of problems they experienced, 46.9% stated that they experienced limitation of movement, 34.7% were unable to perform their daily living activities, and 20.4% had problems related to pain. Majority of patients (63.4%) explained that they were not affected psychologically. Patients experiencing psychological impact expressed their fears as future anxiety (78.1%), fear of death (14.1%), feeling of being a burden to others (4.7%), and forgetfulness (3.1%) (Table 1).

It was found that 75.2% of the patients did not experience any change in family life during the postoperative period. Of the 25 patients experiencing changes in family life, 64.0% reported the changes as handing over their roles and responsibilities to another one and staying away from the family (24.0%). The great majority of the participants (91.1%) reported they did not experience any change in an intrafamilial relationship. It was determined that 32.7% of the patients had difficulties in fulfilling family roles and responsibilities due to surgery, and the reasons for these difficulties were found as being unable to spend enough time with family (78.8%) and to provide financial support to the family budget (21.2%) (Table 1). It was determined that 32.7% of the patients participating in the study had social support resources including family and friends. It was determined that a vast majority of the patients (76.2%) had no expectations from social support resources and that the expectations of all patients having social support resources were met (Table 1).

It was determined that 33.7% of the patients had a job and the great majority of these patients (87.8%) were able to continue working.

It was determined that 14 of the 34 patients who continued to work experienced changes in work life and 9 of them had problems in terms of workplace relationships. Two out of 5 patients who were unable to continue working expressed the reason for that as their current health status. The financial loss was experienced by 30.5% of the patients due to the surgery (Table 1).

The mean scores of the patients according to physical function, physical role function, emotional role function, energy/vitality, mental health, social function, body pain, and general health perception subdimensions of the SF-36 were found as 53.11 ± 29.65, 38.63 ± 40.91, 44.88 ± 42.27, 50.69 ± 19.82, 65.98 ± 16.58, 55.44 ± 28.96, 54.13 ± 29.47, 57.17 ± 20.46, respectively (Table 2).

The mean scores of female in all sub-dimensions of SF-36 were found to be lower compared to male. A statistically significant difference was found between the mean scores of body pain of male and female, in favor of men ($U=883.00$, $P=.022$) (Table 3).

It was found that there was a difference between the mean scores of sub-dimensions of SF-36 according to the education level of the patients and also that the difference between the mean scores of physical functioning ($\chi^2=8.468$, $P=.037$), physical role function ($\chi^2=12.177$, $P=.007$), and emotional role function ($\chi^2=8.996$, $P=.029$) was found to be statistically significant (Table 3). The mean score of the illiterate participants was found to be lower in these 3 dimensions compared to the others.

The mean scores of patients having open-heart surgery were found to be lower than those having vascular surgery revealing that the mean sub-dimension scores of SF-36 differed according to the type of surgery. The difference between the mean scores of patients obtained from physical functioning ($t=-2.227$, $P=.028$), physical role function ($t=-2.332$, $P=.022$), and general health perception ($t=-2.097$, $P=.039$) was found statistically significant.

Table 1. Sociodemographic and Psychosocial Characteristics of the Patients (N=101)

The Sociodemographic and Psychosocial Characteristics		
	$\bar{X} \pm SS$	
Mean age (year)	58.71 ± 13.84	
Mean length of hospitalization (days)	10.86 ± 1.38	
	n	%
Gender		
Female	39	38.6
Male	62	61.4
Marital status		
Married	85	84.2
Single	16	15.8
Educational level		
Illiterate	5	5.0
Primary school graduate	33	32.7
High school graduate	22	21.8
Graduate or postgraduate	41	40.6
Employment status		
Working	34	33.7
Not working	67	66.3
Level of income		
Having no income	2	2.0
Having income less than expenses	23	22.8
Having equal income to expenses	57	56.4
Having income more than expenses	19	18.8
Living area		
City center	65	64.4
County	23	22.8
Village	13	12.9
Previous history of hospitalization		
Yes	76	75.2
No	25	24.8
Types of surgery		
Open heart surgery	72	71.3
Vascular surgery	29	28.7
Having preoperative anxiety		
Yes	42	41.6
No	59	58.4
Reason of anxiety (n=42)		
Fear of death	15	35.7
Fear of risk and complication	14	33.3
Concerns relating to probable changes during postoperative period	13	31.0
Having limitations in physical functioning due to disease during preoperative period		
Yes	69	68.3
No	32	31.7
Reason of physical limitation (n=69)		
Dyspnea	33	47.8
Fatigue and weakness	19	27.5
Pain	17	24.6
Dependency status in daily life activities during the postoperative period		
Independent	64	63.4
With the help of others	36	35.6
Dependent	1	1.0
Having problems during the postoperative period		
Yes	49	48.5
No	52	51.5
Reasons of problems (n=49)		
Limitation of movement	23	46.9
Being unable to perform daily living activities	17	34.7
Pain	10	20.4
Status of believing psychologically impacted the during postoperative period		
Yes	37	36.6
No	64	63.4
Reason for psychological impact (n=64)		
Future anxiety	50	78.1
Fear of death	9	14.1
Feeling of burden to others	3	4.7
Forgetfulness	2	3.1
Experiencing change in family life during the postoperative period		
Yes	25	24.8
No	76	76(75.2)
Reason for experiencing change in family life (n=25)		
Handing over intra-familial roles and responsibilities	16	16(64.0)
Staying away from family	6	24.0
Limitation of movement	3	12.0
Experiencing change in intra-familial relationships during postoperative period		
Yes	9	8.9
No	92	91.1
Having difficulty in fulfilling intra-familial roles and responsibilities		
Yes	33	32.7
No	68	67.3
Reason for having difficulty in fulfilling intra-familial roles and responsibilities (n=33)		
Being unable to spend enough time with family	26	78.8
Being unable to provide financial support to family budget	7	21.2
Having social support resources		
Yes	33	32.7
No	68	67.3

$\bar{X} \pm SS$, mean ± standard deviation.

Table 2. Sub-dimension Mean Scores of SF-36 Quality of Life Questionnaire of the Patients

Sub-dimensions	Min-Max	$\bar{X} \pm SS$
Physical function	0-100	53.11 ± 29.65
Physical role function	0-100	38.63 ± 40.91
Emotional role function	0-100	44.88 ± 42.27
Energy/Vitality	0-95	50.69 ± 19.82
Mental Health	16-100	65.98 ± 16.58
Social function	0-100	55.44 ± 28.96
Body pain	0-100	54.13 ± 29.47
General health perception	5-100	57.17 ± 20.46

$\bar{X} \pm SS$, mean ± standard deviation; Min-Max, minimum-maximum.

It was determined that the mean scores of SF-36 sub-dimensions were lower in patients with a previous history of hospitalization and that there was a statistically significant difference between the mean scores of general health sub-dimension according to previous hospitalization experience ($U=517$, $P=.001$) (Table 3).

It was found that the sub-dimension mean scores of the patients reporting to experience anxiety during the preoperative period were lower than those who did not when the mean scores of the SF-36 were compared according to the anxiety levels of the patients during the preoperative period. The mean scores of physical functioning ($U=893.5$, $P=.017$), emotional role function ($U=966.5$, $P=0.049$), energy/vitality ($U=800.0$, $P <= .002$), mental health ($U=723.0$, $P=.000$), and general health perception ($U=815$, $P=.003$) were found to be statistically significant according to experiencing anxiety (Table 3).

The sub-dimension mean scores of patients experiencing psychological impact during postoperative period were found lower. The difference between the mean scores of physical functioning ($U=769.0$, $P=.005$), energy/vitality ($U=641.5$, $P=.000$), mental health ($U=690.0$, $P=.001$), social function ($U=863.0$, $P=.029$), body pain ($U=867.5$, $P=.033$), and general health perception ($U=795.5$, $P=.008$) were found to be statistically significant according to experiencing psychological impact (Table 3).

The mean scores of sub-dimensions of SF-36 were found lower in patients having difficulty in fulfilling the roles and responsibilities due to current health situation during the postoperative period. The difference between mean scores of patients in physical functioning ($U=824.0$, $P=.039$), energy/vitality ($U=788.0$, $P=.016$), social function ($U=745.0$, $P=.008$), and body pain ($U=795.0$, $P=.022$) were found statistically significant in terms of having difficulty (Table 3).

Discussion

The World Health Organization has defined health as "not only the absence of disease and infirmity, but also the presence of physical, mental and social well-being."[17] Patients with cardiovascular diseases face the challenges of a new life cycle that may be accompanied by physical and mental deterioration, and the frequency of psychosocial dysfunction in these patients is high.[18] Psychosocial problems associated with cardiovascular diseases include sadness, anger, helplessness, anxiety, despair, depression, withdrawal, loss of a role in family and work life, a decline in self-confidence, fear of death, having trouble in being self-sufficient, depressive appearance, and social isolation.[19,20]

Psychosocial problems, on the other hand, may both facilitate the development of cardiovascular disease and worsen the clinical condition and prognosis of an individual.[5,20] Cardiovascular diseases arise anxiety about achieving and maintaining autonomy, loss of self-worth, and fear of death in the individual.[5] In the current study, it was found that the patients had limitations in physical functions both in the preoperative period due to the disease and in the postoperative period that they had difficulty in performing daily living activities, and that one-third of the patients needed the help of others for performing daily living activities.

Dyspnea and angina symptoms of cardiovascular diseases primarily affect the patient physically, causing fatigue and impaired quality of life.[21-23] The results of the current study revealed that the patients experienced physical limitations due to dyspnea, fatigue, weakness, and pain, and difficulty in performing daily life routines, similar to the study conducted by Kaya and Şenturan[22] (2016), which found that patients undergoing coronary artery bypass graft surgery experienced fatigue. In a study conducted by Merkouris et al[24] (2009) with elderly patients undergoing coronary artery bypass graft surgery, it was found that more than half of the patients had trouble in terms of self-confidence and being physically dependent on others, although the great majority of the patients had an improvement in quality of life 1 year after the operation. Having a chronic disease and needing the help of others to perform daily activities was found to cause sense of loss in self-worth and autonomy in individuals in addition to decline in quality of life.[25-27] In our study, the mean scores of the patients obtained from the sub-dimensions of SF-36 were quite low. The fact that the patients got the lowest score from physical role function sub-dimension of SF-36 questionnaire also supports our other results. It will be beneficial for nurses to implement interventions to encourage patient participation to self-care and to protect self-esteem and autonomy of patients, in addition to the routine care of cardiovascular surgery patients. Surgery causes behavioral, physiological, and psychological symptoms such as anger, anxiety, fear, worry, and pain, and interruption in social life resulting in development of psychosocial problems.[28,29] In the current study, almost half of the patients reported that they experienced anxiety during preoperative period and explained the reasons for anxiety as fear of death, fear of surgical risks and complications, and concerns about probable changes in the postoperative life. The participants reporting to have psychological burden during postoperative period expressed that they were affected by future anxiety, fear of death, and feeling of being a burden to others. The presence of a health problem related to the cardiovascular system and surgical process causes psychosocial problems in individuals as it seen from the results of our study, consistent with the literature.[4,20,30] Coping skills of patients should be strengthened to eliminate the adverse effects of psychosocial problems. Social support is the most important resource that can help individuals to cope with psychological burden and to reduce the harmful effects of adverse events in life on physical health.[31] Social support is known to have positive effects on both physical and mental illnesses.[32] It can be defined as the support that individual received from family, friends, neighbors, and institutions providing emotional,

Table 3. Comparison of Patients' Sociodemographic Characteristics, Psychosocial Problems, and Mean Scores of Sub-Dimensions (N=101)

			SF-36 Quality of Life Questionnaire Sub-Dimension							
Variables	n	%	Physical function, $\bar{X} \pm SS$	Physical Role Function, $\bar{X} \pm SS$	Emotional Role Function, $\bar{X} \pm SS$	Energy Vitality, $\bar{X} \pm SS$	Mental Health, $\bar{X} \pm SS$	Social Function, $\bar{X} \pm SS$	Body Pain, $\bar{X} \pm SS$	General Health Perception, $\bar{X} \pm SS$
Gender										
Female	39	38.6	49.4 ± 30.9	45.7 ± 39.3	48.1 ± 42.8	46.8 ± 19.2	52.3 ± 17.8	51.0 ± 31.6	42.6 ± 27.8	50.9 ± 22.4
Male	61	61.4	51.9 ± 28.9	52.6 ± 41.6	52.7 ± 42.0	53.5 ± 20.0	50.1 ± 15.8	50.9 ± 27.4	56.2 ± 29.36	51.0 ± 19.2
Statistics[a]			*U*=1148.00	*U*=996.00	*U*=1099.0	*U*=1048.50	*U*=1155.50	*U*=1206.50	*U*=883.00	*U*=1206.0
			P=.670	*P*=.215	*P*=.420	*P*=.261	*P*=.708	*P*=.986	***P*=.022***	*P*=.986
Education level										
Illiterate	5	5.0	17.40 ± 21.1	30.40 ± 22.3	33.80 ± 44.7	35.40 ± 10.3	54.60 ± 14.5	44.40 ± 27.1	33.10 ± 30.6	41.40 ± 13.9
Primary school	33	32.7	47.6 ± 26.1	42.0 ± 38.2	46.9 ± 40.3	45.6 ± 25.2	47.9 ± 20.2	43.1 ± 25.6	48.6 ± 28.4	44.0 ± 22.2
High school	22	21.8	54.8 ± 28.7	46.4 ± 38.8	43.3 ± 42.4	56.8 ± 16.4	52.9 ± 13.8	49.9 ± 28.2	44.2 ± 30.1	56.3 ± 19.8
Graduate	41	40.6	55.7 ± 31.2	60.8 ± 40.9	60.4 ± 40.6	54.0 ± 16.4	52.0 ± 15.1	58.6 ± 31.2	58.7 ± 28.9	54.8 ± 19.5
Statistics[b]			χ^2=8.468	χ^2=12.177	χ^2=8.996	χ^2=3.871	χ^2=0.591	χ^2=5.574	χ^2=6.147	χ^2=3.874
			P*=.037	***P*=.007***	***P*=.029***	*P*=.276	*P*=.898	*P*=.134	*P*=.105	*P*=.275
Type of surgery										
Open heart surgery	72	71.3	49.0 ± 28.8	32.7 ± 40.2	43.5 ± 42.4	49.4 ± 21.2	66.3 ± 17.7	52.4 ± 29.3	54.0 ± 30.5	54.5 ± 20.6
Vascular surgery	29	28.7	63.2 ± 29.7	53.5 ± 39.5	48.2 ± 42.3	53.7 ± 15.6	65.1 ± 13.4	62.9 ± 27.0	54.2 ± 27.1	63.7 ± 18.7
Statistics[c]			*t*=−2.227	*t*=−2.332	*t*=−0.997	*t*=−0.997	*t*=0.336	*t*=−1.663	*t*=−0.019	*t*=−2.097
			P*=.028	***P*=.022***	*P*=.611	*P*=.321	*P*=.738	*P*=.099	*P*=.984	***P*=.039***
Previous history of hospitalization										
Yes	76	75.2	47.7 ± 29.2	47.6 ± 40.1	48.6 ± 41.0	48.8 ± 19.4	48.4 ± 16.3	50.7 ± 29.2	49.9 ± 29.2	45.3±18.7
No	25	24.8	60.8 ± 29.5	56.8 ± 42.1	58.2 ± 44.8	57.6 ± 21.1	58.7 ± 17.1	51.7 ± 28.6	54.2 ± 30.5	68.3 ± 20.9
Statistical values[a]			*U*=703.0	*U*=753.5	*U*=768.0	*U*=784.5	*U*=757.0	*U*=931.5	*U*=868.5	*U*=517.5
			P=.52	*P*=.144	*P*=.132	*P*=.191	*P*=.128	*P*=.883	*P*=.519	***P*=.001***
Having anxiety										
Yes	42	41.6	42.7 ± 27.0	46.0 ± 39.2	44.5 ± 40.9	40.5 ± 18.8	38.7 ± 14.0	44.4 ± 29.2	48.4 ± 27.9	40.9 ± 20.4
No	59	58.4	56.8 ± 30.4	52.8 ± 41.8	55.6 ± 42.1	58.4 ± 18.9	59.7 ± 16.9	55.6 ± 27.9	52.8 ± 30.5	58.1 ± 18.8

Statistics[a]			*U*=893.5	*U*=1026.0	*U*=966.5	*U*=800.0	*U*=723.0	*U*=963.0	*U*=1132.0	*U*=815.0
			P*=.017	*P*=.220	***P*=.049***	***P*=.002***	***P*=.000***	*P*=.055	*P*=.459	***P*=.003***
Psychological impact status										
Impacted	37	36.6	39.7 ± 26.1	43.6 ± 38.6	43.9 ± 39.2	36.3 ± 18.9	37.6 ± 16.6	42.3 ± 28.6	42.4 ± 28.8	40.5 ± 20.2
Not impacted	64	63.4	56.7 ± 29.9	53.0 ± 41.6	54.3 ± 43.2	58.8 ± 18.1	58.0 ± 15.1	55.3 ± 28.2	55.2 ± 28.9	56.3 ± 19.3
Statistics[a]			*U*=769.0	*U*=912.0	*U*=923.5	*U*=641.5	*U*=690.0	*U*=863.0	*U*=867.5	*U*=795.5
			P*=.005	*P*=.094	*P*=.069	***P*=.000***	***P*=.001***	***P*=.029***	***P*=.033***	***P*=.008***
Having difficulty in fulfilling the roles and responsibilities										
Yes	33	32.7	41.9 ± 26.9	43.9 ± 38.6	43.2 ± 40.9	40.5 ± 20.2	44.0 ± 17.4	39.5 ± 24.0	41.0 ± 25.5	43.7 ± 19.9
No	68	67.3	54.7 ± 30.4	53.0 ± 41.4	54.0 ± 42.4	55.3 ± 19.1	53.6 ± 16.0	55.8 ± 30.1	55.1 ± 30.6	53.8 ± 20.4
Statistics[a]			*U*=824.0	*U*=888.0	*U*=866.5	*U*=788.0	*U*=893.0	*U*=745.0	*U*=795.0	*U*=881.5
			P*=.039	*P*=.114	*P*=.066	***P*=.016***	*P*=.118	***P*=.008***	***P*=.022***	*P*=.099

**P* < .05. $\bar{X}$ ± SS, mean ± standard deviation; [a]Mann–Whitney *U* test; [b]Kruskal–Wallis test; [c]Student's *t*-test.

cognitive, and tangible assistance resulting in the sense of the individual belonging to a community sharing a common responsibility, being loved and respected by this community, strengthening the psychological dynamics of the individual to cope with emotional problems.[31,33] In the current study, one-third of the patients were found to have social support resources explained as family and friends, and these support resources met the expectations of patients. In general, physical and psychological assistance provided to an individual in a difficult situation meets the basic social needs of individuals such as love, commitment, and self-esteem.[32] Similarly, fulfilling the roles and responsibilities in family life of an individual positively affects one's psychology. In the current study, some of the patients were found to experience changes in family life due to handing over their roles and responsibilities to another one or staying away from the family, as well as having difficulties due to being unable to fulfill familial roles and responsibilities, to spend enough time with family, and to provide financial support to family budget. In the study of Doğru and Karadakovan,[30] it was found that the psychosocial adaptation of elderly patients with heart failure was adversely affected in general, that the most negatively affected fields were family circle, extended family relationships, and psychological area, and that the patients with heart failure class III were found to have worse adaptation in terms of work circle, family circle, social environment, and psychological field than those with class II. In this study, one-third of the patients were found to have a job. It was determined that a few of the patients having a job were not able to continue working, that nearly half of them experienced changes in work life, and that one-third of them had problems in their workplace relationships. It is known that there is a relationship between social support and socioeconomic status of individuals with cardiovascular disease.

Cardiovascular disease could result in decrease in job performance, interruption in work life or job losses due to long and continuous treatment process, and deterioration in physical function. In addition to these factors, financial losses are experienced affecting both the individual and the family and social life of the individual due to the expenditures during the disease process.[20] Development of policies and procedures regarding economic arrangement for individuals with cardiovascular disease will contribute to both the solution of psychosocial problems and the increase in quality of life of patients. The quality of life of a patient is a complex and multidimensional concept including physical, mental, social, and economic components and is affected by various factors, primarily medical and psychosocial factors.[34] It was reported that there was a relationship between the quality of life of patients undergoing cardiac surgery and factors such as age, gender, education level, marital status, and chronic disease.[35,36]

In our study, the sub-dimension mean scores of SF-36 of female patients were found lower, and it was found that the sub-dimension mean scores (physical function, physical role function, and emotional function) increased as the education level increased while a significant difference was found in pain sub-dimension. In the study of Korkmaz et al.[35] the mean score of physical function, a sub-dimension of SF-36 questionnaire, of male patients was found to be significantly higher 6 weeks after coronary artery bypass graft surgery compared to before surgery, and age was found to negatively affect physical functions of patients both during the preoperative and postoperative period. In the study carried out by Dirimeşe et al.[21] it was determined that the mean score of physical role function sub-dimension of the SF-36 questionnaire was significantly higher in male patients before coronary artery bypass graft surgery. In this study, statistically significant differences were found between the mean scores of many sub-dimensions of SF-36 questionnaire and having anxiety during preoperative period and experiencing psychological impacts during postoperative period. It can be considered that implementing practices that can reduce the anxiety of patients during preoperative period and providing care accordingly may have a positive effect on the quality of life of individuals. Preoperative fear and anxiety of patient can be reduced, especially with an effective patient education about surgery.

Maintaining a good quality of life is as important as surviving for many patients with cardiovascular disease.[37] Positive psychosocial factors of the individual have importance for increasing the quality of life, and especially being resilient was shown to be a determinant of a positive change in the quality of life.[38] It is reported that educating patients for developing healthy lifestyle behaviors in cardiovascular diseases and raising awareness of patients on this issue would contribute to improvement of their quality of life.[21]

Conclusion

In this study, it was determined that cardiovascular surgery patients experienced psychosocial problems such as anxiety, limitations in physical functioning, inability to perform daily life activities, psychological distress during the postoperative period, having difficulty in fulfilling roles and responsibilities, and changes in family and work life. The mean score of patients obtained from sub-dimensions of SF-36 questionnaire were found to range between 50.69 ± 19.82 and 65.98 ± 16.58 and were also found lower in females, illiterates, patients having open-heart surgery, those having a previous history of hospitalization, those having preoperative anxiety, those reporting to experience psychological impact during the postoperative period, and those having difficulties in fulfilling their roles and responsibilities.

The aim of cardiovascular surgery is to increase the quality of life of patient and to contribute to the prolongation of life expectancy. It is important for healthcare professionals to know the effects of surgical intervention on the psychosocial life and quality of life of patients to provide effective care for patients undergoing cardiovascular surgery. Periodic evaluation of the psychological status of patients by nurses via establishing a therapeutic relationship contributes to the early detection of psychosocial problems. Improving psychosocial factors, on the other hand, has a positive effect on the the patient's quality of life. Nurses should work collaboratively with healthcare team members to identify patients having problems with psychological well-being (for example, depression, anxiety, and burnout) and to organize psychological interventions for patients who may benefit most. In addition, it is recommended to plan practices for implementing coping skills of patients and increasing adaptation to lifestyle changes.

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