

Clinical Research

Depression and Anxiety in Patients Treated in the Coronary Intensive Care Unit

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ABSTRACT

Objective: Ensuring the survival of patients has been accepted as a successful outcome in recent years, but it is known that patients are exposed to negative emotional consequences during their stay in intensive care units. The aim of this study was to investigate the depression and anxiety status of patients hospitalized in the coronary intensive care unit and the affecting factors.

Material and Method: The population of the cross-sectional and descriptive study consists of 230 patients who were hospitalized in the Coronary Intensive Care Unit of University Hospital in May-July 2019. Study data were obtained by using a sociodemographic questionnaire and Hospital Anxiety and Depression (HAD) scale. In statistical evaluations, t test, one-way analysis of variance tests were applied.

Results: The mean age of the patients included in the study was 65,55±12,73, and 42.2% of them (n =97) were female and 57.8% (n =133) were male. The mean score of the anxiety subscale was 8,20±3,56, and the mean of the depression subscale was 9,32±4,26. The mean score of anxiety (p <0,001) and depression (p <0,05) in female patients was found to be higher than male patients. It was determined that patients over 60 years of age, whose spouses died or were divorced, scored higher in the depression subscale (p <0,05).

Conclusion: One third of the patients under treatment in the coronary intensive care unit are affected by anxiety, and a very large portion of them are affected by depression. Contrary to expectations, it was found that depression affects the intensive care patient population more. More research is needed on anxiety and depression rates and affecting factors in intensive care patients.

Keywords: Depression, Anxiety, Coroner, Intensive Care.

ÖZ

Koroner Yoğun Bakım Ünitesinde Tedavi Gören Hastalarda Depresyon ve Anksiyete

Amaç: Son yıllarda hastaların hayatta kalmalarının sağlanması başarılı bir sonuç olarak kabul edilmektedir ancak hastaların yoğun bakım birimlerinde kaldıkları süre içinde olumsuz duygusal sonuçlara maruz kaldıkları bilinmektedir. Araştırmamızda koroner yoğun bakım ünitesinde yatan hastaların depresyon ve anksiyete belirtisi üzerine etki eden faktörlerin araştırılması amaçlanmıştır.

Gereç ve Yöntem: Kesitsel ve tanımlayıcı tipteki araştırmanın evrenini 2019 yılı Mayıs-Temmuz aylarında bir Üniversite Hastanesi Koroner Yoğun Bakım Ünitesinde herhangi bir nedenle yatmakta olan, çalışmaya katılmayı kabul eden ve bilinci açık 230 hasta oluşturmuştur. Çalışma verileri sosyodemografik anket formu ile Hastane Anksiyete ve Depresyon Ölçeği (HADÖ) kullanılarak elde edilmiştir. Değerlendirmede t testi, tek yönlü varyans analiz (ANOVA) testi testleri uygulanmıştır.

Bulgular: Araştırma kapsamına alınan hastaların %42,2'si (n=97) kadın, %57,8'i (n=133) erkektir, yaş ortalamaları 65,55±12,73 yıldır. HADÖ puan ortalamaları; anksiyete alt boyutu puan ortalaması 8,20±3,56, depresyon alt boyutu ortalaması 9,32±4,26 olarak bulunmuştur. Kadın hastaların anksiyete (p <0,001) ve depresyon (p <0,05) puan ortalaması erkek hastalara göre daha yüksek saptanmıştır. 60 yaş üzeri olan, eşi vefat etmiş veya boşanmış olan hastaların depresyon alt boyutundan daha yüksek puan aldıkları saptanmıştır (p <0,05).

Sonuç: Koroner yoğun bakımda tedavi altında ki hastaların üçte biri anksiyeteden, çok büyük bir bölümü ise depresyondan etkilenmektedir. Beklenenin aksine depresyonun yoğun bakım hasta popülasyonunu daha fazla etkilediği saptanmıştır. Yoğun bakım hastalarında anksiyete ve depresyon oranları ve etki eden faktörler konusunda daha fazla araştırmaya ihtiyaç vardır.

Anahtar Sözcükler: Depresyon, Anksiyete, Koroner, Yoğun Bakım.

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Units, where those with severe cardiovascular disease, and patients with critical conditions are treated and cared for, the staff receive special training work, and many complex devices are used, are called coronary

intensive care units (1, 2). The purpose of intensive care units is to support patients and patient relatives biopsychosocially while also treating diseases, enabling patients to be discharged with a positive experien-

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ce (3).

Around the world, depression and anxiety are the two main causes of serious community health issues. Between 12% to 47% of ICU patients report having anxiety symptoms, while 28% of patients report having depressive symptoms (4). Studies among patients in intensive care units have shown that patients are susceptible to anxiety and depression (5, 6). In particular, ensuring the survival of patients in recent years is considered a successful result, but patients are known to have negative emotional consequences during their stay in intensive care units (7). Unaccustomed environment and people, mobility constraints, being bed-ridden, sleep disturbance, unable to see their relatives, factors such as the sense of dependence on vehicles or intensive care units, frequently repeated pain stimuli, and lack of sufficient knowledge of treatment and applications cause psychological symptoms (8, 9). It can also increase the stress of patients because the devices used in intensive care units are not sufficiently known by patients and patient relatives (10, 11). Stressors in the intensive care unit are indicated as physical (ventilator use, needle, etc.), physiological (lack of movement, confusion, difficulty communicating, etc.), and environmental (light and noise, unpleasant images and smells, etc.). The patient's response to these stress factors depends on factors such as medical diagnosis, prognosis, culture, social support, family relations, age, gender, development level, mental state, and coping mechanisms (12, 13). Cases of severe disease and difficult to treat, this rate increases further. In particular, anxiety and depression developed in these patients adversely affect patient adaptation, quality of life, response to treatment, course of disease, mortality, and morbidity (14-16).

Determining factors affecting the anxiety and depression levels of patients in the Coronary Intensive Care Unit (CICU) will enable more effective and evidence-based care. In this study, depression and anxiety levels of patients treated in the Coronary Intensive Care Unit of a university hospital were analyzed.

MATERIAL AND METHOD

Planning of the study and selection of patients

This cross-sectional and descriptive study was conducted among patients receiving treatment in the coronary intensive care unit of a tertiary healthcare institution. Totally 230 patients in cardiac intensive care for any cause who volunteered to participate in the trial and were conscious received the treatment from May to July 2019. The sample size was calculated by considering the prevalence of depression reported in the study of Shdaifat et al (4). The minimum sample size required to detect a significance difference using this test should be at least 213, considering type I error (alpha) of 0.05, power (1-beta) of 0.8, effect size of 0.3 and two-sided alternative hypothesis (H1). Inclusion criteria: Participants age of 18 years old who were administered

coronary intensive care unit and willing to participate in the study. Exclusion criteria of the study; known anxiety and depression disorders, anxiolytic and anti-depressant drug use, sedative drug use, confusion, delirium, stupor and coma. There are two components to the data collection tool. The Hospital Anxiety and Depression (HAD) scale is included in the second section of the sociodemographic survey form, which is divided into the first and second parts. The questionnaire was applied to 10 people and necessary corrections were made. Ethics approval was received by Firat University Ethics Committee on Non-Interventional Studies on 25.04.2019 and Article 07-04 for the research. All participants were informed about the study protocol and written informed consent was obtained from all the participants. Those who refused to fill out the questionnaire for the study or who were undergoing psychiatric treatment were excluded.

Data collection

Zigmond and Snaith (17) created the hospital anxiety and depression scale in 1983. Aydemir (18) conducted validity and reliability research from Türkiye in 1997. For the Turkish patient group, the coefficients of reliability of the anxiety (HAD-A) and depression subscales (HAD-D) of the had scale were determined as 0.85 and 0.78 respectively. Hospital Anxiety Depression Scale (HADS); It includes subscales of anxiety and depression, is a self-notification scale, and consists of a total of 14 substances, 7 of which investigate the symptoms of depression (even numbers) and 7 investigate anxiety (odd numbers). Responses are evaluated in quadruple Likert format and scored between 0-3. The rating of each item is different. The scores for articles 1, 3, 5, 6, 8, 10, 11, and 13 are 3, 2, and 1 with decreasing intensity. Ratings for articles 2, 4, 7, 9, 12, and 14 are 0, 1, 2, and 3. When collecting articles 1, 3, 5, 7, 9, 11, and 13 for the anxiety subscale; for the depression subscale; points for articles 2, 4, 6, 8, 10, 12, and 14 are collected. A minimum score of 0 and a maximum of 21 points can be obtained from each subdivision. Scale's objective is to swiftly scan anxiety and depression for people who have physical illness in order to identify the risk group rather than to make a diagnosis. There are subscales of anxiety (HAD-A) and depression (HAD-D). As a result of the Turkey research, the cutting score for the depression subscale was 7 and the cutting score for the anxiety subscale was 10.

Statistical Analysis

IBM SPSS Statistics 22.0 statistical program was used in the evaluation of the data obtained in our study. T test, one-way variance analysis (ANOVA) test was applied in statistical evaluations. The mean were given together with the standard deviation (mean±Sd), and $p < 0.05$ was evaluated as statistical signifiability.

RESULTS

The patients' mean age was 65.55±12.73 (min: 19 max: 93). 42.2% (n =97) of the study's participants were women, while 57.8% (n =133) were men. Sociodemographic characteristics of patients given in table 1.

Table 1. Sociodemographic characteristics of patients.

Variables	(n)	(%)	
Gender	Female	97	42.2
	Male	133	57.8
Age (years)	≤ 60	75	32.6
	>60	155	67.4
Marital status	Married	182	79.1
	Single	11	4.8
	Widow or divorced	37	16.1
BMI (kg/m ²)	<18.5 (Weak)	-	-
	18.5-24.9 (Normal weight)	67	29.1
	25.0-29.9 (Overweight)	113	49.1
	30.0 ≤ (Obese)	50	21.7
Education level	Primary school and illiterate	188	81.7
	High school	42	18.3
	Housewife	91	39.6
Occupations	Retired	64	27.8
	Self employment	31	13.5
	Farmer	18	7.8
	Officer	13	5.7
	Worker	12	5.2
Perception of socioeconomic level	Student	1	0.4
	Good	19	8.3
	Middle	175	76.1
	Poor	36	15.7
Family situation	Living Alone	23	10.0
	Living with Family	207	90.0
Stress condition	Yes	114	49.6
	Not	116	50.4
Perception of health condition	Good	41	17.8
	Medium	140	60.9
	Poor	49	21.3
Chronic disease condition	Yes	151	65.7
	No	79	34.3

Information about the hospitalization process of the patients is given in table 2.

Table 2. Distribution of patients' information about the hospitalization process.

Variables	(n)	(%)	
Reason for hospitalization	Myocardial Infarction	146	63.5
	Heart failure	43	18.7
	Arrhythmia	30	13.0
	Hypertension	6	2.6
	Pulmonary embolism	5	2.2
Length of stay in hospital	1-2 day	147	63.9
	3-4 day	55	23.9
	≥5 day	28	12.2
Duration of the disease	≤ 2 year	123	53.5
	>2 year	107	46.5
Satisfaction with the service received	Yes	224	97.4
	No	6	2.6
Previously on hospitalization experience	Yes	197	85.7
	No	33	14.3
Drug groups used	Diuretic	91	39.6
	Digoxin	9	3.9
	ACE inhibitor	58	25.2
	Beta-blocker	93	40.4
	ARB blocker	18	7.8
	Anticoagulant	75	32.6

Myocardial infarction (63.5%) is the leading cause of hospitalization. The patients expressed satisfaction with the service they received from the hospital (97.4%). The patients have previously experienced hospitalization (85.7%).

In our study, 63.5% of participants (n =146) had myocardial infarction, 18.7% had cardiac medications, 13.0% had arrhythmias, 2.6% had hypertension, and 2.2% had pulmonary embolism.

The mean HAD-A score of the patients hospitalized in the coronary intensive care unit is 8.20±3.56 (min:2.0, max:17.0). While the mean HAD-A score of 67.4% (n =155) of the patients was 6.21±2.18, the mean score of 32.6% (n =75) was 12.30±2.02.

The mean HAD-D score of the patients hospitalized in the coronary intensive care unit is 9.32±4.26 (min:0.0, max:21.0). While the mean HAD-D score of 30.4% (n =70) of the patients was 4.38±2.17, the mean score of 69.6% (n =160) was 11.48±2.96.

The sociodemographic characteristics of the participants according to the anxiety and depression subscale score means are given in table 3.

Table 3. HAD-A and HAD-D score means according to sociodemographic characteristics of patients.

Variables (n =230)	HAD-A Mean±Sd	HAD-D Mean±Sd	
Gender	Female	9.18±3.41	10.32±3.91
	Male	7.48±3.51	8.58±4.37
Age	≤ 60	8.10±3.68	8.21±4.39
	60<	8.25±3.51	9.85±4.11
Marital status	Married	8.14±3.67	8.98±4.09
	Widow or divorced	8.43±3.16	10.60±4.68
BMI	Normal weight	8.79±3.54	9.71±3.78
	Overweight	8.14±3.64	9.29±4.28
	Obese	7.56±3.33	8.86±4.84
Education level	Primary school and illiterate	8.45±3.52	9.81±4.17
	High school	7.07±3.55	7.09±4.02
Perception of socioeconomic level	Good	6.84±3.78	8.10±3.60
	Middle	8.27±3.55	9.29±4.34
	Poor	8.58±3.40	10.08±4.17
Family situation	Living with Family	8.53±3.08	10.11±4.69
	Living Alone	8.16±3.62	9.22±4.21
Residence	Village	8.05±3.49	10.40±4.37
	County	8.60±3.71	9.46±4.33
	City	8.14±3.56	8.83±4.15
Stress condition	Yes	8.85±3.42	10.28±4.03
	No	7.56±3.59	8.37±4.29
Duration of the disease	≤ 2 year	7.97±3.28	9.09±4.08
	2 year <	8.46±3.86	9.57±4.47

*Single patients were evaluated as spouses dead or divorced.

HAD-A: Hospital anxiety depression scale anxiety subscale; HAD-D Hospital anxiety depression scale depression subscale: Mean ±Sd: Mean ± standard deviation.

According to the results; the mean anxiety score of female patients is 9.18±3.41 and the mean of male patients is 7.48±3.5. Depression score mean; 10.32±3.91 in female patients and 8.58±4.37 in male patients, Patients over the age of 60 received a score of 9.85±4.11 points for depression and 8.21±4.39 for patients aged 60 and under.

The mean scores of the divorced or widowed patients in the depression sub-dimension were higher than the married ones, and it was 10.60±4.68. The mean scores of primary school graduates and illiterate patients in the anxiety sub-dimension were higher than those of high school graduates, and it was 8.45±3.52. The anxiety and depression mean scores of those who stated that there was a situation that would cause stress in their life were high, 8.85±3.42 and 10.28±4.03, respectively.

Patients who perceived their health status as poor (p=0.002) and were admitted with a hypertension diag-

nosis (p =0.036) were found to have greater rates of anxiety (Table 4).

Table 4. Comparison of HAD-A scale scores according to some characteristics of patients.

Variables (n =230)	HAD-A>10 point		HAD-A≤10 point			
	n	(%)	n	(%)		
Smoking status	Yes	22	36.7	38	63.3	p =0.429
	No	53	31.2	117	68.8	
Perception of health condition	Good	5	12.2	36	87.8	p =0.002
	Middle	47	33.6	93	66.4	
	Poor	23	53.1	26	46.9	
BMI	Normal weight	28	41.8	39	58.2	p =0.076
	Overweight	36	68.1	77	31.9	
	Obese	11	22.0	39	78.0	
Chronic disease condition	Yes	53	35.1	98	64.9	p =0.301
	No	22	27.8	57	72.2	
Reason for hospitalization (diagnosis)	Myocardial Infarction	41	28.1	105	71.9	p =0.036
	Heart failure	18	41.9	25	58.1	
	Arrhythmia	9	30.0	21	70.0	
	Hypertension	5	83.3	1	16.7	
	Pulmonary embolism	2	40.0	3	60.0	
Length of stay in hospital	1-2 day	41	27.9	106	72.1	p =0.124
	3-4 day	23	41.8	32	58.2	
	5 day ≤	11	39.3	17	60.7	
Previously on hospitalization experience	Yes	69	35.0	128	65.0	p =0.070
	No	6	18.2	27	81.8	

The prevalence of depression was higher in patients who thought their health was moderate and poor (p =0.004) (Table 5).

Table 5. Comparison of HAD-D scale scores according to some characteristics of the patients.

Variables (n =230)	HAD-D>7 point		HAD-D≤7 point			
	n	%	n	%		
Smoking status	Yes	19	31.7	41	68.3	p =0.871
	No	51	30.0	119	70.0	
Perception of health condition	Good	20	48.8	21	51.2	p =0.004
	Middle	101	72.1	39	27.9	
	Poor	39	79.6	10	20.4	
BMI	Normal weight	52	77.6	15	22.4	p =0.173
	Overweight	77	68.1	36	31.9	
	Obese	31	62.0	19	38.0	
Chronic disease condition	Yes	108	71.5	43	28.5	p =0.371
	No	52	65.8	27	34.2	
Reason for hospitalization (diagnosis)	Myocardial Infarction	100	68.5	46	31.5	p =0.079
	Heart failure	34	79.1	9	20.9	
	Arrhythmia	16	53.3	14	46.7	
	Hypertension	5	83.3	1	16.7	
	Pulmonary embolism	5	100.0	0	0.0	
Length of stay in hospital	1-2 day	101	68.7	46	31.3	p =0.799
	3-4 day	38	69.1	17	30.9	
	5 day ≤	21	75.0	7	25.0	
Previously on hospitalization experience	Yes	60	30.5	137	69.5	p =1.00
	No	23	69.7	10	30.3	

DISCUSSION

When the reason for the hospitalization of the patients is examined; The first three diseases are myocardial infarction, heart failure, and arrhythmia, respectively. In the study conducted by Kutlu et al. (5) the reasons for hospitalization were myocardial infarction, heart failure, and hypertension. Çam et al. (20) reported that among patients who were in intensive care, it was observed that they received 8.67 points from the sub-dimension of anxiety and 9.36 points from the sub-dimension of depression in the same way as our study.

Similar results were obtained in our study, which supports the findings of the mentioned study. In a study conducted in intensive care, patients were found to score 12.1 points from the sub-dimension of anxiety and 11.5 points from the sub-dimension of depression (6). The results of our study and the results of the current study support each other, and the anxiety score in our study was 9.18±3.41 in female individuals and the mean of male patients is 7.48±3.5.

In terms of gender-based mean, it was determined that the mean points of female patients for in terms of anxiety and depression were higher than those of male patients with significant levels. Sarigul’s (19) study

found that anxiety and depression were higher in female patients. Similarly, anxiety and depression levels were shown to be significantly greater in female patients in a study of patients in a cardiology critical care unit (5). Similar to our study, it was shown that women experienced higher levels of anxiety in studies done in the intensive care unit (21, 6). The structural characteristics, family and social position, and cultural characteristics of female patients can cause women to become more prone to depression.

The rate of depression was found higher in patients aged over 60 in our study. In other studies, similar to our study, it was observed that the predisposition to depression increased as age increased (22, 23). Increased fear of death and feelings of loneliness in later life is thought to cause depression to become more common in older age.

When examined for marital status, the rate of depression was found higher in patients whose spouses had died or were divorced. The mean anxiety score of patients whose spouses died or divorced was higher but was not statistically significant. In a similar study, single patients were found to score higher than the depression subdimension (19). Similarly, in the study of Buldan et al. (24) single patients were found to have higher anxiety and depression scores. It is thought to be easier for those who are married to cope emotionally with their illness thanks to the familial and social support they receive.

In our study, the mean scores of primary school graduates and undergraduate patients with anxiety and depression, were significantly higher. Similar to our work, other studies found that the mean of primary school graduates and undergrads or non-literate authors was higher in anxiety and depression points (5, 19).

Anxiety, and depression, score means were higher in patients who stated that any stress condition existed. Psychological stressors are known to increase susceptibility to cardiovascular diseases and need to be more sensitive about psychological support if patients have any stress. In our study, the mean anxiety score of patients with poor perceptions of health conditions was higher-

Patients admitted to the hospital with a diagnosis of hypertension were found to have a higher mean anxiety score. In the study of Kutlu et al. (5) it was observed that the mean anxiety score was higher in patients who had myocardial infarction. Patients who expressed poor perception of health conditions had higher mean scores of depression, and anxiety.

The limitations of this study should be taken into account when interpreting the findings. The study may need to be replicated with bigger samples due to the tiny sample size employed. Questionnaires and qualitative research techniques can be utilized to better understand how patients perceive and feel anxiety and depression.

Conclusion

Current findings have shown that a large proportion of patients under treatment in coronary intensive care unit are affected by anxiety and depression. Gender, age, marital status, education level and additional stress focuses are factors that affect anxiety and depression. The prevalence of anxiety and depression in patients treated in the coronary intensive care unit should not be ignored. We recommend that the factors affecting the depression and anxiety states of patients be examined in larger populations and preventive measures should be taken.

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