ANXIETY AND DEPRESSION LEVELS IN HOSPITALIZED PATIENTS DUE TO COVID-19 INFECTION

COVID-19 ENFEKSİYONU NEDENİYLE HASTANEDE YATAN HASTALARDA ANKSİYETE VE DEPRESYON DÜZEYLERİ

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Öz

Amaç: Covid-19 nedeniyle hastanede yatarak tedavi gören hastaların bulaşın önlenmesi için tek kişilik odalarda ve yanında refakatçi olmadan tedavileri sağlanmaktadır. Bu hastalara hizmet veren gerek sağlık gerek destek personelleri kişisel koruyucu ekipman ile hastalarla temas etmektedir. Bu değişen koşulların bireylerin psikolojileri üzerindeki etkisini değerlendirmeyi planladık.

Materyal ve Metot: Araştırma Göğüs Hastalıkları, Enfeksiyon Hastalıkları ve İç Hastalıkları servislerine yatan 300 hasta (115 kadın, 185 erkek) ile yapıldı. Veriler, araştırmacı tarafından hazırlanan ve hastaların tanıtıcı özelliklerini içeren kişisel bilgi formu ve Hastane Anksiyete ve Depresyon Ölçeği (HAD) ile toplandı. Ölçeğin ülkemizde geçerliliği daha önce araştırılmış ve anksiyete ve depresyon için yararlı ve duyarlı bir tarama aracı olduğu gösterilmiştir.

Bulgular: Hasta grubunun ortanca yaşı 42 (min-maks: 18-90) olup, hastaların %61,70'i erkek, %46,30'u ilköğretim mezunu, %78,30'u evli, %24'ü ev hanımı, %10,30'u emekli idi. Tüm vakalar arasında %8.30 (n: 25) klinik olarak ciddi depresyon ve %24 (n: 72) hafif depresyon ve %7,70 (n: 23) klinik olarak ciddi anksiyete ve %16 (n: 48) hafif anksiyete vardı. HAD-anksiyete puanının şiddetine göre iki cinsiyet arasında istatistiksel olarak anlamlı fark vardı ve kadınlarda anksiyete puanları daha yüksekti (p <0,001).

Sonuç: Bulgularımız, Covid-19 nedeniyle hastanede yatarak tedavi gören bireylerde anksiyete ve depresyon düzeylerinin arttığını göstermiştir. Pandeminin önümüzdeki süreçte devam etmesi beklenmektedir. Bu nedenle hastaların anksiyete depresyon düzeylerinin azaltılmasına yönelik girişimlerinin planlanmasının ve gerekli destek programlarının oluşturulmasının gerekli olduğu düşünülmektedir.

Anahtar Kelimeler: Covid-19, anksiyete, depresyon, hastane anksiyete ve depresyon ölçeği.

Abstract

Objectives: Patients who are hospitalized for Covid-19 are treated in single rooms and without an attendant to prevent contamination. Both health and support personnel serving these patients come into contact with patients with personal protective equipment. We planned to evaluate the impact of these changing conditions on individuals' psychology.

Materials and Methods: The study was conducted with 300 patients (115 females, 185 males) hospitalized in Chest Diseases, Infectious Diseases, and Internal Diseases services. The data were collected using the personal information form prepared by the researcher and containing the descriptive characteristics of the patients and the Hospital Anxiety and Depression Scale (HAD).

Results: The median age of the patient group was 42 (min-max: 18-90), 61.70% of the patients were male, 46,30% were primary education graduates, 78.30% were married and 24% were housewives, 10.30% were retired. Among all cases, there were 8.30% (n: 25) clinically serious depression and 24% (n: 72) mild depression, and 7.70% (n: 23) clinically serious anxiety and 16% (n: 48) mild anxiety. There was a statistically significant difference when compared between two genders according to the severity of HAD-anxiety score, and anxiety scores were higher in women (p<0.001).

Conclusion: Our findings showed that anxiety and depression levels increased in individuals hospitalized for Covid-19. The pandemic is expected to continue in the upcoming period. For this reason, it is thought that it is necessary to plan the interventions of patients to reduce their anxiety and depression levels and to create the necessary support programs.

Keywords: Covid-19, anxiety, depression, hospital anxiety, and depression scale.

Introduction

A pandemic caused by a new coronavirus has become the focus of scientific interest in recent months. In December 2019, cases of unknown pneumonia have been identified and these cases were associated with the local seafood wholesale market in Wuhan, Hubei province of China. A new type of coronavirus has been reported as a result of research on the development of severe dyspnea and/or acute respiratory distress syndrome (ARDS) in some patients.[1] The new coronavirus, was officially named 'SARSCoV-2 by the International Virus Taxonomy Committee. And the disease transmitted by this virus was called Covid-19.[2]

The clinical presentation of Covid-19 can range from asymptomatic infection to severe respiratory failure or even death in different tables.[3] Covid-19-disease which was defined in China, started to be reported from many countries in a short period and then took its effect all over the world. The World Health Organization (WHO) declared a pandemic on 12 March 2020.[4] As is generally known, this outbreak is more contagious than SARS and threatens global public health security.[5]

The Covid-19 outbreak caused widespread self-isolation as a result of the quarantine process proposed by the World Health Organization. During the pandemic, major changes in social life began to occur in the world. In this process, both healthcare professionals and individuals have been subjected to increased stress due to this serious infection. After the epidemic started, a large number of studies were conducted both community-based and healthcare professionals-related in order to assess the psychological impact.[6-8] As a result of these studies, a significant increase in anxiety levels has been shown in society. Among healthcare professionals, a higher degree of influence has been shown, especially among those dealing with the treatment of Covid-19 patients.

Patients who are treated for Covid-19 in the hospital may be affected by factors such as depression, anxiety, stress, the need for information about the disease and control of the disease, and the need for social support, along with the personality traits. In addition, patients hospitalized in the hospital due to Covid-19 are isolated in single rooms due to the risk of transmission and are followed up without accompanying persons. Both health and support staff serving these patients come into contact with patients with personal protective equipment. In the follow-up of the patients, we observed that their anxiety increased frequently and that they wanted to be discharged immediately despite their intense symptoms due to the stress they experienced. Therefore, we planned to evaluate the impact of these changing conditions on an individual's psychology.

Materials and Methods

The study was conducted in Ankara City Hospital, Covid-19 services of Chest Diseases, Infectious Diseases, and Internal Diseases from May 2020 to June 2020. The study protocol was approved by the local ethics committee

(Number: E1-20-663). The patients with possible and definitive cases according to the case definitions suggested by the Republic of Turkey Ministry of Health Science Board for Covid-19 were included in the study. In addition, individuals over the age of 18 who were able to communicate effectively with healthcare professionals were included. Patients with a psychotic illness or marked cognitive impairment were excluded from the study. A total of 360 patients who met the criteria for participation in the study constituted the sample of the study. Within the scope of the research, patients were interviewed face to face. 16.6% (n = 60) of the patients were excluded from the study because they filled in the data collection forms incompletely or did not agree to participate. Therefore, evaluations were made with 300 patients (115 women, 185 men).

Data collection and psychometric measurements

The research data were collected using the questionnaire prepared by the researchers and the Hospital Anxiety and Depression Scale (HAD) as a result of the literature review.[9] The questionnaire included items questioning the patients about sociodemographic characteristics (age, gender, marital status, educational levels, jobs) and psychiatric disease history, psychiatric drug use, alcohol/substance use, and length of hospital stay. All patients participating in the study were informed about the research and then oral and written consents for participation were obtained.

HAD scale was developed by Zigmond and Snaith to determine the risk of anxiety and depression in the patient and to measure the level and change in severity.[9] The scale of HAD has been translated into Turkish by Aydemir et al., validity and reliability studies have been conducted and it has been reported that it is a suitable tool for use in Turkish society.[10] Reliability coefficients of the anxiety and depression subscales of the HAD scale for the Turkish patient group were 0.85 and 0.78, respectively. The scale is a self-assessment scale specifically designed for use in hospital settings, measuring the level and severity change of the patient in terms of anxiety and depression. The scale, studied in various diseases and compared in clinical groups, has been shown to give clinically meaningful results as a psychological screening tool. The scale consists of 14 items and includes HAD-A (Anxiety, 7 questions) and HAD-D (Depression, 7 questions) subscales. Each item is scored with 4-point Likert and the highest score from each sub-dimension is 21. In each sub-dimension, the scores between 0-7 are evaluated as "normal" and 8-10 scores are considered as "borderline", while scores above 11 indicate significant psychological morbidity.

Statistical analysis

SPSS 21.0 package program (Statistical Package for Social Sciences, SPSS Inc., Chicago, IL, United States) was used to evaluate the data. Firstly, demographic characteristics and alcohol-substance dependence, presence of psychiatric illness, and psychiatric drug use were evaluated by statistical analysis. Data on anxiety and depression were analyzed by descriptive statistics (mean ± standard deviation). The distribution

characteristics of the variables were evaluated with the Kruskal Wallis test. Relationships between age and the length of hospital stay variables and anxiety and depression scores were examined by Spearman correlation analysis. $p < 0.05$ value was considered statistically significant.

Results

The sociodemographic characteristics of the patients in the study are shown in Table 1. The median age of the patient group was 42 (min-max: 18-90), 61.70% of the patients were male, 46.30% were primary education graduates, 78.30% were married and 24% were housewives, 10.30% were retired. The severity of anxiety and depression according to gender in the patient group is shown in Table 2. Among all cases, there were 8.30% (n: 25) clinically serious depression and 24% (n: 72) mild depression, and 7.70% (n: 23) clinically serious anxiety and 16% (n: 48) mild anxiety. No statistically significant difference was found between the two genders according to the severity of HAD-depression score (p:0.284). However, there was a statistically significant difference when compared between two genders according to the severity of HAD-anxiety score, and anxiety scores were higher in women (p<0.001).

The mean score of the HAD scale was 10.38 ± 6.48; mean depression and anxiety scores were 5.66 ± 3.54 and 4.72 ± 3.65 respectively. The Spearman correlation analysis was performed between age and the length of hospital stay, and depression score, anxiety score, and total HAD score. However, no significant correlation was found (Table 3).

When the means of anxiety and depression scores were compared according to demographic data, there was no statistically significant difference between HAD-score, HAD-depression score, and HAD-anxiety score between age groups (respectively; p:0.957, p:0.988, p:0.916). But, when compared by gender; HAD-score and HAD-anxiety score were higher in women than men and there was a statistically significant difference (respectively; p:0.002; p<0.001). No significant difference was found in comparison with HAD-depression score by gender (p:0.288). According to the length of hospital stay, they were divided into two groups as those who stayed in the hospital for 5 days and less, and those who stayed more than 5 days. As the length of the hospital stays extended, both anxiety and depression scores increased. There was a statistically significant difference for HAD-score, HAD-depression score, and HAD-anxiety score between the two groups (respectively; p <0.001; p<0.001; p:<0.001). Also, when the mean of HAD-score, HAD-depression score, and HAD-anxiety score was compared according to marital status (single; married; divorced/widow), educational status (primary education; high school; the university), working status (do not work (housewife/retired/ unemployed); worker), there was no significant difference (Table 4).

Table 1. Demographic features of the patients according to gender

	Total (n:300)	Female (n:115)	Male (n:185)	p
Age (median (min-max))	42 (18-90)	44 (18-81)	42 (18-90)	0.598
Marital status, n(%)				
Single	43 (14.30)	12 (10.40)	31 (16.80)	0.052
Married	235 (78.30)	90 (78.30)	145 (78.40)	
Divorced/Widow	22 (7.30)	13 (11.30)	9 (4.90)	
Educational status, n(%)				
Primary education	152 (50.60)	72 (62.60)	80 (43.20)	0.001
High school	71 (23.70)	20 (17.40)	51 (27.60)	
University	77 (25.70)	23 (20)	54 (29.20)	
Profession, n(%)				
Housewife	72 (24)	72 (62.60)	0 (0)	<0.001
Trade	28 (9.30)	2 (1.70)	26 (14.10)	
Retired	31 (10.30)	5 (4.30)	26 (14.10)	
Technical service	19 (6.30)	0 (0)	19 (10.30)	
Construction industry	13 (4.30)	0 (0)	13 (7)	
Student	14 (4.70)	2 (1.70)	12 (6.50)	
Health	13 (4.30)	7 (6.10)	6 (3.20)	
Education	13 (4.30)	6 (5.20)	7 (3.80)	
Engineer	15 (5)	2 (1.70)	13 (7)	
Unemployed	12 (4)	6 (5.20)	6 (3.20)	
Service	33 (4.90)	4 (4.40)	28 (15.10)	
Office worker/Officer	19 (6.40)	5 (4.40)	14 (7.60)	
Police/ Soldier	13 (1.60)	2 (1.90)	11 (5.90)	
Judge	2 (0.70)	1 (0.90)	1 (0.50)	
Farmer	3 (1)	0 (0)	3 (1.60)	
Psychiatric disease, n(%)				
Not	263 (87.70)	94 (81.70)	169 (91.40)	0.102
Depression	32 (10.70)	19 (16.50)	13 (7)	
Bipolar disorder	2 (0.70)	1 (0.90)	1 (0.50)	
Anxiety disorder	3 (1)	1 (0.90)	2 (1)	
Psychiatric drug use, n(%)				
Not using	261 (87)	94 (81.70)	167 (90.30)	0.215
Antidepressant	35 (11.70)	19 (16.50)	16 (8.60)	
Anxiolytic	4 (1.40)	2 (1.80)	2 (1)	
Alcohol / substance use, n(%)				
Yes	26 (8.70)	5 (4.30)	21 (11.40)	0.087
The length of hospital stay (day) (mean ± SD)	5.74 ± 4.79	5.95 ± 4.57	5.60 ± 4.93	0.531

Table 2. The severity of anxiety and depression of the patients according to gender

HAD- Depression	Total n	Total %	Female n	Female %	Male n	Male %	p
0-7 point	203	67.70	73	63.50	130	70.30	
7-10 point	72	24	29	25.20	43	23.20	0.284
11 and above	25	8.30	13	11.30	12	6.50	
HAD- Anxiety							
0-7 point	229	76.30	72	62.60	157	84.90	
7-10 point	48	16	25	21.70	23	12.40	<0.001
11 and above	23	7.70	18	15.70	5	2.70	

HAD: Hospital Anxiety and Depression Scale

Table 3. Spearman correlation analysis of relationships between age and hospital stay, anxiety and depression scores

	Age (years) r	Age (years) p	The length of hospital stay (day) r	The length of hospital stay (day) p
Depression score	0.025	0.663	-0.007	0.909
Anxiety score	-0.009	0.883	0.007	0.911
Total score	0.017	0.774	0.002	0.966

Table 4. Comparison of anxiety and depression scores according to demographic variables

	HAD-score Mean ± SD	p	HAD-depression score Mean ± SD	p	HAD-anxiety score Mean ± SD	p
Age						
18-30	10.53 ± 6.69		5.46 ± 3.22		5.07 ± 4.03	
30-50	10.24 ± 6.77	0.957	5.68 ± 3.66	0.988	4.56 ± 3.59	0.916
50-65	10.38 ± 5.95		5.71 ± 3.59		4.66 ± 3.46	
>65	10.40 ± 6.28		5.62 ± 3.62		4.78 ± 3.69	
Gender						
Female	11.93 ± 7.24	**0.002**	5.93 ± 3.63	0.288	5.99 ± 4.20	**<0.001**
Male	9.41 ± 5.78		5.48 ± 3.49		3.92 ± 3.01	
Marital status						
Single	11.00 ± 5.92		5.70 ± 3.03		5.30 ± 3.70	
Married	10.27± 6.60	0.699	5.65 ± 3.61	0.949	4.62 ± 3.66	0.490
Divorced/Widow	10.32 ± 6.52		5.68 ± 3.87		4.64 ± 3.44	
Educational status						
Primary education	10.28 ± 6.52		5.80 ± 3.67		4.47 ± 3.60	
High school	10.25 ± 6.13	0.924	5.59 ± 3.16	0.784	4.66 ± 3.76	0.217
University	10.70 ± 6.81		5.44 ± 3.66		5.26 ± 3.64	
Working status						
Do not work (housewife/retired/ unemployed)	11.13 ± 6.78	0.121	5.91 ± 3.66	0.337	5.22 ± 3.88	0.070
Worker	9.91 ± 6.27		5.50 ± 3.47		4.41 ± 3.47	
The length of hospital stay (day)						
≤ 5	5.12 ± 5.11	**<0.001**	3.07 ± 2.97	**<0.001**	2.05 ± 2.6	**<0.001**
> 5	12.84 ± 5.54		6.86 ± 3.13		5.98 ± 3.39	

Discussion

In this cross-sectional study, the prevalence of depressive and anxiety symptoms in Covid-19 patients was evaluated. Among the patients included in the study, 32.30% had symptoms of depression (mild or significant) and 23.70% had symptoms of anxiety (mild or significant). Mental Health Profile of Turkey in the last 12 months stated the prevalence of anxiety disorders as 0.70% in the survey.[11] In the Health Statistics Yearbook of the Ministry of Health of the Republic of Turkey, the frequency of depression was reported as 7.20% in society.[12] Both HAD-depression score and HAD-anxiety score increased in our cases.

The Covid-19 pandemic is an unprecedented international public health emergency. The increase in the number of confirmed cases and the increase in the number of provinces and countries affected by the outbreak have led to fears that the public may become infected. Besides its biological properties and medical results, due to wide and long-term changes in daily life, dealing with it represents a challenge for psychological resilience. Previous studies have shown that epidemics and contamination outbreaks of diseases have been followed by drastic individual, social and psychosocial impacts, which eventually became more pervasive than the epidemic itself.[13,14] During the pandemic, the implementation of social distance is encouraged all over the world to reduce interactions among people and thus reduce the possibility of new infections. Also, in some areas, people's daily activities have decreased or changed.[15] These factors can lead to different levels of psychological pressure that can trigger feelings of loneliness and helplessness, or a range of dysphoric emotional states, such as stress, irritability, physical and mental fatigue, and hopelessness.[16]

A high level of anxiety, stress, and depression have already been observed in the general population due to the pandemic at this time.[17,18] However, the high anxiety and depression scores of the Covid-19 patients who were hospitalized, might be caused by the fact that the disease has an important place in the world press and may cause serious respiratory failures and deaths in many countries. While depression scores were similar in both genders, anxiety scores were significantly higher in the female gender. When the cases were evaluated in terms of borderline and significant psychological morbidity according to the HAD scale, borderline and significant depression were similar in both genders, whereas borderline and significant anxiety was higher in women. Given this information, it is important for health authorities to identify groups at high risk of developing emotional problems.

Stressful events are strong negative environmental factors that can make individuals prone to psychiatric disorders, especially depression.[19,20] In addition, studies have shown that during outbreaks, people experience negative emotional reactions such as anxiety and depression symptoms. Anxiety is an emotional situation that is experienced in the face of any threat or danger. Whether an event is perceived as stressful depends on the nature of the event and the person's coping and defense mechanisms.[21,22] Recent studies have shown that

COVID-19 caused moderate to severe symptoms of anxiety and depression for Chinese people in about a third of adults.[23]

Therefore, anxiety development is an expected response in hospitalized individuals due to Covid-19. Covid-19 is a disease that has the potential to be a serious danger, threatening the life of the individual. As a result, individuals feel anxious and fearful. Individuals who have such an affective process may have difficulty in using effective coping mechanisms by which they used to solve their problems before. Reducing the anxiety of a hospitalized individual significantly depends on the family, the environment, and healthcare professionals who take care of him/her.[24] However, due to the isolation implementation in this process, this task is left to the healthcare personnel and the staff providing care services, since the individual is not staying with a family member or a permanent caregiver. In order to reduce the anxiety of the individual suffering from the Covid-19 disease, it is important to facilitate the patient's compliance, to recognize the discomfort and stressors from the symptoms of the disease.

In studies conducted on patients who have had a previous heart attack, it was reported that when patients experience symptoms such as pain, fear, and nausea, they show psychological reactions such as fear, anxiety, depression, and denial. It was also reported that the stress they experienced was due to feeling a meaningful and life-threatening crisis.[24] In our cases, among the findings that were reflected us, physicians, although there were important pathologies in the clinical and laboratory findings, some patients ignored their symptoms and were willing to be discharged as soon as possible.

In our study, when anxiety and depression scores were evaluated in terms of gender; anxiety scores were higher in women. The most important factor that makes up this difference between genders may be that the lives of women and men are affected in different ways. The fact that women have more roles and responsibilities in the family compared to men and the thought that they cannot fulfill them and cannot care for their children may cause their anxiety to increase. In a study, anxiety and depression scores were found high in the non-working and retired group in patients who had MI. The patients in this group have been concerned about how they will meet their compulsory financial needs and increase their economic costs when they become ill.[25] Petrie et al. reported that they had been worried about staying away from their social environment, losing their productivity, and experiencing economic problems, since they could not work due to physical disabilities and psychological incompatibility after suffering a heart attack.[26] Among our cases, the presence of previous depression and anxiety, the use of psychiatric drugs, or alcohol/substance use were very low. However, in our cases, most of the patients with psychiatric illnesses were using medication for their disease. Also, we showed that anxiety and depression scores were higher in patients hospitalized for more than 5 days. It was thought that both the higher severity of the disease and the prolongation of the hospital stay were effective in this situation.

It is important to screen for anxiety and depression during the hospital stay due to Covid-19 disease. In this study, the HAD-scale used has been shown to be an adequate tool for screening and detecting anxiety and depression in patients with Covid-19. Anxiety and depression can have a major impact on patients' quality of life and physical limitation. On the other hand, people who remain isolated due to Covid-19 must remain isolated for 14 days after discharge. For this reason, depression and anxiety disorders should be determined while hospitalized. Otherwise, their compliance with the recommendations and treatment may decrease both in the hospital and after discharge. Health care workers have an important role in determining anxiety and depression in the services where these patients are followed. Patients should be evaluated by using appropriate scales and structured clinical interviews. Psychiatric evaluation and follow-up can be planned for the required cases as a result of the screenings performed in this way. It is also important to support the patient so that the patient can communicate with family and friends in isolation conditions. One of the limitations of our study is that the patients could not be evaluated clinically. However, telemedicine, which has been increasingly used recently, can also be used for these patients. In a study, psychological evaluations of hospitalized patients were made via telephone and questionnaire. For the assessment of anxiety and depressive symptoms, the Hospital Anxiety and Depression Scale was used. This report at least indicates the potential usefulness of telephone-based interventions in hospital isolated patients with COVID-19.[27]

As a result, healthcare professionals should be aware of patients' doubts and concerns, because it can have many negative effects on disease management and disease compliance. Health professionals have a great role in the proper recognition, guidance, and management of the psychological problems of patients with Covid-19.

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