THE RELATIONSHIP BETWEEN THE NURSING CARE PERCEPTIONS OF INPATIENTS DIAGNOSED WITH COVID-19 AND ANXIETY AND DEPRESSION

YATARAK TEDAVİ GÖREN COVID-19 TANILI HASTALARIN HEMŞİRELİK BAKIM ALGILARI İLE ANKSİYETE VE DEPRESYON ARASINDAKİ İLİŞKİ

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ABSTRACT

Objective: This study was conducted to determine the relationship between the perceptions of nursing care and anxiety and depression in inpatients diagnosed with COVID-19.

Methods: 236 patients hospitalized with COVID-19 in a public hospital between 1 March 2022 and 25 April 2022 constituted the sample of the cross-sectional correlational study. "Patient Description Form", "Hospital Anxiety and Depression (HAD) Scale" and "Scale of Patient Perception of Hospital Experience with Nursing Care (PPHEN)" were used as data collection tools. Numbers and percentage calculations, arithmetic mean, median (25th-75th percentile), Mann Whitney U test, Kruskal Wallis, and Linear Regression analysis were used to analyze the data.

Results: The mean HAD-Anxiety score of the patients was 9.79±6.40, the mean HAD-Depression score was 8.45±6.73, and the mean score of the PPHEN was 54.20±18.22. There was a strong and significant negative correlation between the HAD-Depression and HAD- Anxiety mean scores of the patients and the mean score of PPHEN. By the results of multiple linear regression analysis, it was determined that the factors significantly influencing the patients' perception of nursing care were depression and anxiety states, the length of hospital stay, the severity of COVID-19 symptoms, and getting information from nurses.

Conclusion: It was found that the anxiety and depression levels of the patients were mild, and the perception of nursing care was high. It was determined that patients' high perceptions of nursing care positively affected their low anxiety and depression levels.

Keywords: COVID-19, Patient, Nurse, Anxiety, Depression.

ÖZET

Amaç: Bu araştırma, yatarak tedavi gören COVID-19 tanılı hastaların hemşirelik bakım algıları ile anksiyete ve depresyon arasındaki ilişkiyi belirlemek amacıyla yapıldı.

Gereç ve Yöntem: Kesitsel korelasyonel çalışmanın örneklemini 1 Mart-25 Nisan 2022 tarihleri arasında bir devlet hastanesine COVID-19 tanısı ile yatırılan 236 hasta oluşturmuştur. Veri toplama aracı olarak "Hasta Tanımlama Formu", "Hastane Anksiyete ve Depresyon (HAD) Ölçeği" ve "Hastanın Hemşirelik Bakımı ile Hastane Deneyimi Algısı Ölçeği (PPHEN)" kullanılmıştır. Verilerin analizinde sayı ve yüzde hesaplamaları, aritmetik ortalama, medyan (25-75. persentil), Mann Whitney U testi, Kruskal Wallis ve Lineer Regresyon analizi kullanıldı.

Bulgular: Hastaların HAD-Anksiyete puanı ortalaması 9.79±6.40, HAD-Depresyon puanı ortalaması 8.45±6.73, PPHEN ortalaması 54.20±18.22 idi. Hastaların HAD-Depresyon ve HAD-Anksiyete ortalama puanları ile PPHEN ortalama puanları arasında güçlü ve anlamlı bir negatif korelasyon vardı. Çoklu lineer regresyon analizi sonuçlarına göre hastaların hemşirelik bakımını algılamasını anlamlı olarak etkileyen faktörlerin depresyon ve anksiyete durumları, hastanede kalış süresi, COVID-19 semptomlarının şiddeti ve hemşirelerden bilgi alma olduğu belirlendi.

Sonuç: Hastaların anksiyete ve depresyon düzeylerinin hafif, hemşirelik bakım algılarının yüksek olduğu bulundu. Hastaların hemşirelik bakımı algılarının yüksek olmasının, düşük kaygı ve depresyon düzeylerini olumlu yönde etkilediği belirlendi.

Anahtar Kelimeler: COVID-19, Hasta, Hemşire, Anksiyete, Depresyon.

INTRODUCTION

The COVID-19 epidemic has quickly become the main stress factor affecting the whole world due to the rapid spread and severe clinical course caused by the nature of the virus. Such factors as the negative news about the pandemic process by the media and other means of communication and the intense focus of the agenda on the pandemic increase personal and collective stress and cause panic (Azoulay & Kentish-Barnes, 2010).

Although the infection is mild in most people, it can lead to more severe clinical conditions in some patients (Uğraş et al., 2020). An individual hospitalized for medical or surgical reasons may exhibit many negative emotions, thoughts, and behaviors related to both his/ her illness and the hospital environment (Okanlı et al., 2006). The diagnosis and treatment process of COVID-19 disease is a traumatic experience for many patients. In this process, high anxiety, felt because the diagnosis of COVID-19 poses a threat to life, disrupts the daily routine, and a crisis occurs where stress and anxiety are at the forefront (Ayakdaş Dağlı et al., 2020). In a study examining the psychological effects in 144 hospitalized patients with a diagnosis of COVID-19, 34.7% of them displayed anxiety symptoms, and 28.4% had depressive symptoms. In addition, there was a relationship between advanced age, the severity of the disease, low education level, being diagnosed with the disease in another family member, being female, the lack of social support, and the development of anxiety and depression. It is important to recognize and manage the anxiety experienced by patients and to enable them to cope with it effectively (Kong and et al., 2020). In this process, nurses need to evaluate the interventions applied for patients faced with this traumatic event (Ayakdaş Dağlı et al., 2020).

Nursing care is a professional service that covers mutual trust, empathy, privacy, ethics, and moral values throughout the entire process of care, which involves determining, planning, implementing, and evaluating the care needs of individuals with current or possible health problems by nurses. Nursing care is a crucial factor in fulfilling not only biological needs but also psychological, social, and cultural needs (Göçmen Baykara, 2014). Another related issue is how caregivers and care recipients perceive the phenomenon and practice of nursing care. Studies reveal that patients' perceptions of nursing care directly affect patient satisfaction, which is considered one of the vital indicators of the quality of health services (Green & Davis, 2005).

There has been little research on how nursing care is perceived by patients during COVID-19 and how nursing care is related to anxiety and depression. Still, there is no research on this subject in Turkey. Consequently, the study aimed to determine the relationship between the perception of nursing care of inpatients with the diagnosis of COVID-19 and anxiety and depression.

MATERIALS AND METHODS

Study Design
This study is cross-sectional and correlational. We used the STROBE checklist during the study writing phase.

Population and Sample of the Study
The population in the study consisted of 260 patients hospitalized with the diagnosis of COVID-19 in a state hospital in the X of Turkey. We collected the data through the face-to-face interview method from patients who agreed to participate in the study between 01 March 2022 and 25 April 2022 using the random sampling method. As a result of the study, we included the data of 236 patients in the study. Twenty-four patients were excluded from the study because they did not meet the study criteria or did not agree to participate.

Inclusion criteria
• Being at least on the 3rd day of their hospitalization,
• Being 18 years or older,
• Agreeing to participate in the study voluntarily,
• Being literate,
• Being diagnosed with COVID-19,
• Living in Turkey,

• Having no impairment in mental and cognitive functions.

Data Collection Tools and Data Collection
In the study, we collected the data through the "Patient Identification Form", the "Hospital Anxiety and Depression (HAD) Scale", and the "Scale of Patient Perception of Hospital Experience with Nursing Care (PPHEN)". After obtaining the necessary institution permission and ethics committee approval for the study, the forms were filled out by obtaining verbal permission from the patients who agreed to participate in the study. Because patients may be reluctant to disclose their true feelings to a care provider, the data was collected by researchers.

Patient introduction form
In this form, there are questions to determine the socio-demographic characteristics of the patients, such as gender, marital status, education levels, occupations, the severity of COVID-19 symptoms, the length of hospital stay, the presence of a companion, getting sufficient information from the nurse during hospitalization, and disease-related characteristics.

HAD scale
It is a four-point Likert-type scale developed by Zigmond & Snaith (1983) to determine the risk of anxiety and depression in patients, to measure its level and severity change (Zigmond & Snaith, 1983). It contains 14 questions in total and odd numbers measure anxiety, and even numbers measure depression. The Turkish validity and reliability of the form were made by Aydemir, Güvenir, Küey & Kültür (1997), and the scale was determined to be safe for screening for the signs of depression and anxiety in those with physical. It consists of two subscales, anxiety (HAD-A) and depression (HAD-D). As a result of the study conducted in Turkey, the cut-off score for the anxiety subscale was 10/11, and the depression subscale was 7/8. Accordingly, those who score above these points are considered at risk. The lowest score that patients can get from both subscales is 0, and the highest score is 21 illnesses (Aydemir et al., 1997). In this study, Cronbach's alpha coefficient was 0.972.

Scale of PPHEN
PPHEN was first developed by Dozier, Kitzman, Ingersoll, Holmberg and Schultz (2001), and the Turkish validity and reliability of the scale were made by İpek Çoban and Kaşıkçı (2010) in 2006. There are 15 statements about the quality of nursing care on the Likert-type scale. For the 15 phrases that make up the scale, it is requested to mark one of the options "agree" (5), "agree somewhat" (4), "undecided" (3), "disagree" (2), "strongly disagree" (1) and "no response" (0). The score given for each item is taken as a basis. In this way, the lowest score obtained from the scale is 15, and the highest score is 75. The cut-off point of the scale is 45. An increase in the total score obtained from the scale indicates that the patient is satisfied with nursing care (Dozier et al., 2001; İpek Çoban & Kaşıkçı, 2010). In this study, Cronbach's alpha coefficient was 0.976.

Ethical Considerations
Approval for the study was obtained from the Ethics Committee of Gümüşhane University (number E-21807 and date 2021/4) and a public institution. Verbal consent was obtained from each participant before starting the study. The participant could leave the survey at any time without giving any reason. The study was carried out under the Declaration of Helsinki.

Data Analysis
Statistical Package for the Social Sciences (SPSS) 23 program was used for statistical analysis. Kolmogorov-Smirnov distribution test was used to examine normal distribution along with descriptive statistical methods such as frequency, percentage, average, standard deviation to evaluate the data. It was observed that the data did not show normal distribution. Mann Whitney U test and Kruskal Wallis test analyzes were performed to determine the relationship between patients' scale scores and socio-demographic variables. The relationship between the patient's perception of the nursing care scale and the Hospital Anxiety and Depression Scale was evaluated with Spearman correlation. Multivariate linear regression analysis (method: enter) was used to determine the factors associated with the patient's perception of nursing care. The statistical significance level was $p < 0.05$.

RESULTS

Table 1. Patient's Hospital Anxiety and Depression Scale and PPHEN mean scores (n=236)

Scale		Number	%	Mean ± SE	Min.-Max
HAD Scale	Anxiety	144	61	9.79±6.40	2-20
		92	39		
	Depression	144	61	8.45±6.73	1-20
		92	39		
PPHEN Scale				54.20±18.22	25-74

HAD: Hospital Anxiety and Depression Scale; PPHEN: Patient Perception of Hospital Experience with Nursing Care Scale

The mean age of the patients was 43.09±14.41 (min:19-max:76) years; 55.9% are male, 55.9% are single, 52.5% are graduates of high school or a lower-level school, and 59.3% are working in any job. It was observed that 61% of the patients had a companion, 61% of them were hospitalized for less than 14 days at the time of the study, and 57.6% felt the symptoms of COVID-19 mildly. 54.2% of the patients stated that the nurses did not give them enough information about their diseases, and 88.1% stated that they expected nurses to develop a better understanding (Table 1).

Considering the scores of the patients from the HAD Scale, the mean score of HAD-A was 9.79±6.40, the mean of HAD-D was 8.45±6.73, and the mean score of the PPHEN was 54.20±18.22. When the scores obtained from the HAD-A and HAD-D subscales were evaluated as below and above the threshold, it was determined that 39% of the patients scored above the threshold for the anxiety and depression subscales (Table 1).

Table 2. The mean score of HAD-A, HAD-D, and PPHEN according to the descriptive characteristics of the patients (n=236)

Variable	Number (%)	HAD-A Median (25.-75. Persantil)	HAD-D Median (25.-75. Persantil)	PPHEN Median (25.-75. Persantil)
Sex				
Female	104 (44.1)	6 (5-18)	6 (3-16)	65 (29-66)
Male	132(55.9)	7 (3-15)	6 (2-9)	66 (43-70)
p		0.001	0.280	<0.001
Marital Status				
Married	104 (44.1)	6.5 (5-17)	4 (2-16)	66 (31-68)
Single	132(55.9)	7 (5-18)	7 (3-16)	65 (34-70)
p		0.901	0.004	0.323
Education Status				
High school or a lower-level school	124 (52.5)	5 (3-7)	3 (2-6.75)	68 (65-71)
Two-year degree	36 (15.3)	18 (6-18)	16 (6-19)	31 (29-66)
Bachelor's degree	56 (23.7)	-	-	-
Post-graduate degree	20 (8.5)	-	-	-
p		0.023	<0.001	<0.001
Occupation				
Retiree	40 (16.2)	18 (15-18)	17 (9-17)	31 (31-43)
Housewife	56 (23.7)	11 (5-17)	9.5 (1-16)	48 (29-66)
Employee	140 (59.3)	6 (3-7)	5 (2-7)	66 (65-70)
p		<0.001	<0.001	<0.001
Companion				
Yes	144 (61)	5 (3-6)	3 (2-5.75)	67 (66-70)
No	92 (39)	18 (17-18)	17 (16-19)	31 (29-34)
p		<0.001	<0.001	<0.001
Getting enough information from the nurse				
Yes	128 (54.2)	5 (3-7)	3 (2-6.75)	68 (65-71)
No	108 (45.8)	18 (6-18)	16 (6-19)	31 (29-66)
p		<0.001	<0.001	<0.001
The severity of COVID-19 symptoms				
Mild	136 (57.6)	5 (3-6)	3 (2-5)	67 (66-71)

Middle	36 (15.3)	15 (15-18)	9 (9-20)	43 (34-43)
Severe	64 (27.1)	18 (17-18)	17 (16-19)	29 (27-31)
p		<0.001	<0.001	<0.001
The Length of stay in hospital				
Under 14 days	144 (61)	5 (3-6)	3 (2-5.75)	67 (66-70)
14 days and more	92 (39)	18 (17-18)	17 (16-19)	31 (29-34)
p		<0.001	<0.001	<0.001

HAD-A: Hospital Anxiety Scale; HAD-D; Hospital Depression Scale; PPHEN: Patient Perception of Hospital Experience with Nursing Care Scale

Considering the HAD subscale scores according to the socio-demographic characteristics of the patients, the anxiety and depression scores of the postgraduates, retirees, unaccompanied patients, those who could not get enough information from the nurses, those who felt the symptoms of COVID-19 severely, and those with a hospital stay longer than 14 days were significantly higher. In addition, it was determined that the anxiety score averages of the women and the depression scores of the single patients were considerably higher (Table 2).

Nursing care perception scores of men, graduates of high school or lower-level school, employees, patients with companions, receiving sufficient information from nurses, employees, those who feel the symptoms of COVID-19 more severely, and those whose hospitalization duration is over/under 14 days were significantly higher (Table 2).

Table 3. Some socio-demographic characteristics of the patients, the relationship between HAD-A, HAD-D and PPHEN (n=236)

Characteristics	1	2	3	4	5	6
(1) HAD-D	1					
(2) HAD-A	r= 0.901 p<0.001	1				
(3) PPHEN	r=-0.872 p<0.001	r=-0.884 p<0.001	1			
(4) The Length of stay in hospital	r= 0.849 p<0.001	r=0.853 p<0.001	r=-0.849 p<0.001	1		
(5) The severity of COVID-19 symptoms	r=0.835 p<0.001	r=848 p<0.001	r=-0.859 p<0.001	r=0.937 p<0.001	1	
(6) Age	r= 0.485 p<0.001	r= 0.437 p<0.001	r=-0.429 p<0.001	r=0.474 p<0.001	r=0.451 p<0.001	1

HAD-A: Hospital Anxiety Scale; HAD-D; Hospital Depression Scale; PPHEN: Patient Perception of Hospital Experience with Nursing Care Scale

A strong and significant negative correlation was between the mean HAD-D and HAD-A scores of the patients and the mean scores of PPHEN scale. There was a strong positive correlation between the length of hospital stay, the severity of COVID-19 symptoms and age and the mean HAD-D and HAD-A scores, and a strong negative correlation with the mean PPHEN scale score (Table 3).

Table 4. The factors that significantly affect patients' perception of nursing care (n=236)

Model	B	SE	95%CI	t	p
Depression	-0.637	0.080	(-0.794)-(-0.481)	-8.013	<0.001
Anxiety	-0.509	0.133	(-0.771)-(0.246)	-3.821	<0.001
The length of stay in hospital	-14.04	1.425	(-16.85)-(-11.23)	-9.854	<0.001
The severity of COVID-19 symptoms	-4.180	0.550	(-5.264)-(-3.096)	-7.596	<0.001
Getting enough information from the nurse	1.423	0.493	0.451-2.395	2.884	0.004

B, unstandardized coefficient. Model R =0.992; R2 =0.984; Adjusted R2=0.983; Durbin-Watson=0.571, F=2785.30; P< 0.001. Dependent variable: Patient's perception of nursing care nursing care

According to the results of multiple linear regression analysis, it was found that the factors that significantly affect the patients' perception of nursing care are depression, anxiety, the length of hospital

stay, the severity of COVID-19 symptoms, and getting information from the nurse. These variables explain 98% of the total variance (Table 4).

DISCUSSION

In this cross-sectional study, the relationship between nursing care perceptions and anxiety and depression in 236 hospitalized patients with COVID-19 was investigated.

In the literature, it is reported that depression and anxiety are associated with many diseases (such as heart failure, kidney failure (dialysis), lung cancer) (Polikandrioti et al., 2015; Natale et al., 2019; Hopwood and Stephens, 2000). Turkey's Mental Health Profile indicated the prevalence of anxiety disorders in the last 12 months as 0.70% in the questionnaire (Baykal, 2017). The prevalence of depression in Turkey was reported as 7.20% in the Health Statistics Yearbook of the Ministry of Health of the Republic of Turkey (T.C. Sağlık Bakanlığı, 2019). Besides, loneliness due to isolation during COVID-19 infection was reported to negatively affect mental health (Leigh-Hunt et al., 2017). In the literature, it was reported that patients with COVID-19 had a high prevalence of anxiety (34.72%) and depression (28.47%) [5]. In another study evaluating the prevalence of depressive and anxiety symptoms in Covid-19 patients, it was determined that 32.30% of the patients had (mild or severe) depression symptoms and 23.70% (mild or severe) anxiety symptoms (Argüder et al., 2020). Similar to the literature, 39% of the patients participating in this study experienced suprathreshold anxiety and depression.

Anxiety is a state of emotion that arises with many psychopathologies dominated by fear and worry (Hisli Sahin et al., 2011). In our study, the anxiety levels of the patients were found to be mild (9.79±6.40). It is estimated that this finding may be due to the presence of an accompanying companion with most (61.0%) patients. Due to the emotional support that the patients receive from their companions, it is thought that it contributes to more easily coping with the anxiety caused by the illness and the hospitalization process (Buldan & Kuzu Kurban, 2018). As in our study, in this study, it was determined that the mean anxiety scores of women were significantly higher than those of men (<0.001). In a study conducted on COVID-19 patients, it was reported that HAD-A score averages were higher in women (Argüder et al., 2020). In a similar study conducted on chronic patients, it was reported that, contrary to our study, sex did not affect the level of anxiety. It can be said that the reason for this difference may be because the sample group in our study consisted of patients diagnosed with COVID-19 disease (which may cause acute respiratory distress). It was determined that the length of hospitalization of the patients was a factor affecting the anxiety level and that the average HAD-A score was higher in patients with 14 days or more hospitalization. Contrary to this finding, there are also studies conducted on patients with chronic diseases that did not show a significant difference between the length of hospitalization and their anxiety levels (Bahar & Taşdemir, 2008). It is thought that this difference in findings is due to the increase in anxiety scores resulted from the prolonged treatment process and the overwhelming desire of the patients diagnosed with COVID-19 infection, which can cause serious problems, and hospitalized on the 14 days and more to return to their families or the environment they are accustomed to. In this study, similar to the study of Argüder et al (2020)., it was also found that the mean anxiety scores did not change according to marital status and education level.

Depression is a condition that includes symptoms such as a slowdown in physiological functions stemming from slowness and stagnation in thought, speech, and movement in a state of deep sadness with the idea of worthlessness, smallness, reluctance, pessimism (Öztürk, 2004). In this study, the depression levels of the patients were found above the cut-off point of the scale (8.45±6.73). This finding may arise from the fact that more than half of the patients (55.9%) in our study were single and had difficulties in coping with their illness emotionally. In the study, it was found that the sex and marital status of the patients did not affect the level of depression, but the level of education, occupation, and length of hospitalization affected that. In the literature, it was found that the sex, marital status, education level, and occupation of the patients diagnosed with COVID-19 did not affect the depression level; however, it was found that the length of hospital stays affected the level of depression (Argüder et al., 2020). In parallel with our study findings, the literature says that the sex, age, education level, and marital status of the patients do not affect the depression level (Buldan & Kuzu Kurban, 2018; Koç & Sağlam, 2011; Korkmaz & Tel, 2010; Mehel Tutuk & Şahin Altun, 2014).

In this study, the mean PPHEN scale score of the patients was 54.20±18.22 (the cut-off point of the scale was 45 points). The level of care perception of the cases can also be considered as the level of satisfaction with nursing care (Ipek Çoban & Kasikci, 2010). Therefore, in this study, it is possible to say that patient satisfaction was also high. Some other studies, similar to this study, report that the satisfaction with nursing care is high (Aydın & Kaşıkçı, 2019). It was found that the marital status of the patients did not affect the depression level, but the sex, education level, occupation, and length of hospitalization of patients affected the PPHEN scale score. In a study conducted by Buldan & Kuzu Kurban (2018), it was determined that socio-demographic characteristics did not affect the perception of nursing care. In our study, the rate of single individuals (55.9%) is considered to be the reason for the significant difference between marital status and the mean score of PPHEN scale.

Nursing care perceptions of patients were significantly higher in cases stating that nurses received sufficient information (54.2%). Some studies had similar findings to this study (Buldan & Kuzu Kurban, 2018; Aydın & Kaşıkçı, 2019).

Individuals with any disease need physiological and psychological support within the nursing care they receive from healthcare professionals (Ozbay et al., 2007). There was a strong and significant negative correlation between the HAD-D and HAD-A mean scores of the patients participating in the study and the mean score of the PPHEN scale. According to the findings of our study, anxiety and depression decreased as satisfaction with nursing care increased.

It was determined that the patients' perception of nursing care was significantly affected by depression, anxiety, the length of hospital stay, the severity of COVID-19 symptoms, and getting information from the nurse (F=2785.30; p<0.001). There is a lack of literature on the relationship between patients' perception of nursing care and anxiety and depression. In the literature, there existed only 1 study on chronic patients (Buldan & Kuzu Kurban, 2018). Similar to the findings in this study, it was reported that anxiety affects the perception of nursing care by Buldan & Kuzu Kurban (2018).

CONCLUSION

The limitations of this study are that it is a cross-sectional study, anxiety and depression was evaluated only once. Therefore, the results of this study cannot be generalized to all COVID-19 patients. It was found that the anxiety and depression levels of the inpatients diagnosed with COVID-19 were mild, and the perception of nursing care was high. It was determined that patients' high perceptions of nursing care positively affected their low anxiety and depression levels. In addition, it was determined that depression, anxiety, the length of hospital stay, the severity of COVID-19 symptoms, and getting information from the nurse significantly affected patients' perception of nursing care. To manage the pandemic process effectively, it is an essential requirement for nurses to know the psychosocial problems and underlying factors experienced by patients and family members and develop new process-specific approaches. In addition, nurses must evaluate patients and their families with a holistic perspective, including psychosocial care, and provide care accordingly.

Author Contributions
Plan, design: H.D, N.K; Materials, methods, and data collection: H.D; Analysis and interpretation: N.K; Writing and critical assessment: H.D, N.K.

Conflict of interest
There is no conflict of interest to declare in this study.

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