

# The Discharge Readiness of People Who Had Experienced COVID-19 Infection and Influencing Factors: A Descriptive and Cross-Sectional Study

## COVID-19 Enfeksiyonu Geçirmiş Kişilerin Taburculuğa Hazır Olma Durumu ve Etkileyen Faktörler: Tanımlayıcı ve Kesitsel Bir Çalışma

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**ABSTRACT Objective:** The aim of this study was to determine whether there was a correlation between the discharge readiness of coronavirus disease-2019 (COVID-19) patients and the influencing factors. **Material and Methods:** This descriptive-cross-sectional and relationship-seeking study. A total of 272 patients undergoing treatment in COVID-19 service of a city hospital participated in this descriptive-cross-sectional and relationship-seeking study. The data were collected using the “personal information form” and the “Readiness for Hospital Discharge Scale/Short Form (RHDS/SF)”. The research was conducted between February-August 2022. In addition to descriptive statistics, independent samples t-test, Kruskal-Wallis, and Mann-Whitney U tests were used for data analysis. **Results:** The score obtained from the overall scale was 5.20±2.08, and the highest score was obtained from the expected support subscale (8.71±2.43), while the lowest score was obtained from the knowledge subscale (0.69±1.45). There was a statistically significant difference between the RHDS/SF and age, marital status, educational status, occupation, cohabiting people, duration of hospitalization and status of receiving training in previous admissions (p<0.05). **Conclusion:** It was determined that the COVID-19 patients were not adequately prepared for discharge. It is recommended that effective discharge training be provided by nursing and hospital management by taking measures to reduce the risk of contamination, taking into account the factors affecting the patients’ readiness for discharge. At the same time, in epidemic diseases with high contagiousness, it is recommended to provide remote discharge training using communication tools in patient rooms.

**Keywords:** COVID-19 infection; patients; discharge readiness; influencing factors

**ÖZET Amaç:** Bu çalışmanın amacı, koronavirüs hastalığı-2019 [coronavirus disease-2019 (COVID-19)] hastalarının taburculuğa hazır olma durumları ve etkileyen faktörler arasında bir ilişki olup olmadığını belirlemektir. **Gereç ve Yöntemler:** Tanımlayıcı-kesitsel ve ilişki arayıcı tipteki bu çalışmaya, bir şehir hastanesinin COVID-19 kliniklerinde tedavi gören 272 hasta katılmıştır. Veriler “kişisel bilgi formu” ve “Hastaneden Taburcu Olma Hazıroluş Ölçeği/Kısa Form” kullanılarak toplanmıştır. Araştırma Şubat-Ağustos 2022 tarihleri arasında gerçekleştirilmiştir. Verilerin analizinde tanımlayıcı istatistiklerin yanı sıra bağımsız gruplarda t-testi, Kruskal-Wallis ve Mann-Whitney U testi kullanılmıştır. **Bulgular:** Hastaların taburculuğa hazır olma toplam puanı 5,20±2,08 olup, en yüksek puan beklenen destek (8,71±2,43) iken, en düşük puan bilgi (0,69±1,45) alt boyutundan alınmıştır. RHDS/SF ölçeği ile yaş, medeni durum, öğrenim durumu, meslek, birlikte yaşanan kişi, yatış süresi ve daha önceki yatışlarda taburculuk eğitimi alma durumu arasında istatistiksel olarak anlamlılık saptanmıştır (p<0,05). **Sonuç:** Bu çalışmada, COVID-19 hastalarının taburculuğa yeterince hazır olmadıkları saptanmıştır. Hastaların taburculuğa hazır olma durumunu etkileyen faktörleri de göz önünde bulundurarak, hemşirelik ve hastane yönetimi tarafından bulaş riskini azaltacak tedbirler alınarak etkili taburculuk eğitimlerinin yapılması önerilmektedir. Aynı zamanda bulaşıcılığı yüksek olan salgın hastalıklarda hasta odalarında iletişim araçları ile uzaktan taburculuk eğitiminin yapılması önerilmektedir.

**Anahtar Kelimeler:** COVID-19 enfeksiyonu; hastalar; taburculuğa hazır olma durumu; etkileyen faktörler

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From the past to the present, humankind has been adversely affected by wars, natural disasters and pandemics. Particularly during the coronavirus disease-2019 (COVID-19) pandemic, which has affected the whole world in the recent period, the need for health services has increased, and various difficulties have been experienced in the provision.<sup>1</sup> Unwanted situations such as lack of intensive care and ward beds, lack of medical devices and personnel have been experienced in health institutions, especially in the early periods of the pandemic.<sup>2,3</sup> This has brought to the agenda the possible earliest discharge of patients, which might have been seen as an important and effective way to cope with challenges.<sup>4</sup> Therefore, the assessment of the discharge readiness of COVID-19 patients in order to maintain the hospital care processes at home has become even more important.

The discharge readiness is defined as the ability of patients or their families to leave the hospital, return to the family and society, and further recover after patients' physiological, psychological and social conditions have improved.<sup>5</sup> In order to be able to notify patients that they are ready to go home, they need to have physical competence, the ability to self-care at home, people who can take care of them at home, access to health services when necessary, be able to take their medications at home, and not have difficulty in procedures such as hospital discharging.<sup>6-8</sup> Accordingly, patients should be prepared for discharge through providing training.

Although discharge readiness is a multidisciplinary teamwork, it is the primary task of clinical nurses to provide discharge training for patients and family members or caregivers to take care of the patient during the transition from hospital to home environment.<sup>9</sup> During COVID-19, particularly nurses working on the front lines have taken a close interest in the treatment, care and education of patients.<sup>10</sup>

The variable clinical course of COVID-19 complicates care transition since some patients deteriorate after a period of clinical stability, and some take weeks to fully recover, while others recover quickly.<sup>11</sup> This situation creates difficulties in preparing them for discharge and setting a discharge decision.<sup>4</sup> In addition, reasons such as the high

transmissibility and lethality of the disease, providing services under difficult conditions with protective equipment and nursing shortage have required the rapid implementation of patient care services, causing problems in preparing patients for discharge.<sup>10,12</sup> As a matter of fact, in studies conducted before COVID-19, it has been revealed that nurses are unable to provide an appropriate and effective discharge service since they do not have the necessary knowledge for planning and training, in addition to lack of time and patient-specific factors.<sup>13,14</sup>

Patients who are not adequately informed and are not preparing for discharge may return to the hospital due to anxiety and life-threatening complications.<sup>15</sup> In order to achieve positive outcomes for clinical treatment, to solve problems related to treatment and post-discharge care, and to reduce repeated admissions and medical expenses, the discharge process should be planned and carried out effectively.<sup>16-18</sup> Therefore, examining the readiness of patients for discharge is an important issue. Moreover, this situation becomes even more important when there is a deadly epidemic.

Recent research provides evidence that readiness or lack of readiness for discharge is associated with the likelihood of a patient's re-admission to the hospital or even death.<sup>19</sup> There are studies on discharge readiness in the literature in various samples such as children, elderly individuals, patients undergoing laryngectomy and psychiatric patients.<sup>20-24</sup> There are also studies examining the correlation between discharge readiness and sociodemographic characteristics (age, gender, income status, marital status, cohabiting people, etc.).<sup>21,24,25</sup> However, no studies have been reached examining the readiness of patients diagnosed with COVID-19. Therefore, the current study has been conducted to evaluate the discharge readiness of COVID-19 patients and the influencing factors. This study finds a special value in COVID-19 and similar pandemics since it guides the future care processes.

## MATERIAL AND METHODS

### DESIGN

The cross-sectional and relationship-seeking research was conducted between February-August 2022 with

patients hospitalized in COVID-19 wards of the first city hospital located in the Mediterranean Region of Türkiye.

## PARTICIPANTS

The universe of the research consisted of  $n=4,000$  patients who received inpatient treatment in the hospital with the diagnosis of COVID-19 in 2021. The inclusion criteria were as follows: Being hospitalized in a medical COVID-19 unit; being aged  $\geq 18$ ; having a planned discharge in 4 to 24 hours; being able to understand and speak Turkish; having person, place and time orientation; not having hearing and speech impairment; and voluntarily participating in the study. The sample size was calculated to be at least 247 patients with a margin of error of 5% with a confidence interval of 95%. Finally, the sample consisted of 272 patients ( $n=272$ ).

## INSTRUMENTS

### Personal Information Form

The form consisted of 11 questions regarding personal information and information regarding COVID-19.<sup>11,19,26</sup>

### Readiness for Hospital Discharge Scale/Short Form

The scale was developed by Weiss et al., and its Turkish validity and reliability was conducted by Kaya et al.<sup>19,26</sup> It consists of 8 items and 4 subscales. The items are scored in the range of 0 and 10. The subscales are as follows: personal status (1, 2), knowledge (3, 4), coping ability (5, 6) and expected support (7, 8).<sup>19</sup> Scores  $\geq 7$  indicate that the patient is ready for discharge, while those  $< 7$  are considered as not ready for discharge.<sup>26,27</sup> The Cronbach  $\alpha$  reliability coefficient of the original scale is 0.74, while it ranges between 0.79 and 0.93 in the subscales. In the current study, it was found 0.86 for the overall scale, while it was 0.90 for personal status, knowledge and expected support, and 0.87 for coping ability.

## PROCEDURES

The Readiness for Hospital Discharge Scale/Short Form (RHDS/SF) was collected by the researchers through face-to-face interviews with 272 patients who accepted to participate by taking isolation mea-

asures. Approval was obtained from the Mersin University Clinical Research Ethics Committee with the decision of the board dated January 26, 2022 and numbered 2022/56. After obtaining the ethical approval, written permission was received from the institution where the study would be conducted. In addition, permission was obtained via email from the authors who conducted the Turkish validity and reliability study of the scale. The research was conducted in accordance with the Helsinki Declaration.

After all patients participating in the study were informed about the research, they signed an informed consent form and their written and verbal consent was obtained.

## DATA ANALYSIS

The data was analyzed using SPSS 21.0 program (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp.). Descriptive statistics were employed for data evaluation. The Kolmogorov-Smirnov test statistics were used to assess the data's normal distribution fit. Independent samples t-test was employed for normally distributed data, while Kruskal-Wallis and Mann-Whitney U tests were used for non-normally distributed data. Tukey HSD and Bonferroni "post hoc" tests were used to determine the source of difference. Spearman and Pearson correlation analysis was performed depending on the data type to determine the relationship between the total and sub-dimensions of the RHDS/SF and the duration of hospitalization. The factors influencing the discharge readiness according to the subscales of RHDS/SF were determined using simple linear regression analysis, and statistical significance was set at  $p < 0.05$ .

## RESULTS

The results of the sociodemographic characteristics were given in Table 1. Accordingly, the average age of the patients was  $61.1 \pm 17.7$ . 50.7% of the patients were aged 65 or over, 52.9% were male, and 70.2% were married. While the proportion of the primary school graduates was 30.1%, 39.7% were retired and 46.7% were living with their spouse and children. Participants of 11.8% had previously been diagnosed with COVID-19, 4.4% had previously received inpatient treatment due to COVID-19, 3.7% had received

**TABLE 1:** Sociodemographic characteristics of the participants.

Characteristics		n	%
Age	18-64	134	49.3
	≥65	138	50.7
Gender	Female	128	47.1
	Male	144	52.9
Marital status	Married	191	70.2
	Single	81	29.8
Educational status	Illiterate	47	17.3
	Primary school	82	30.1
	Secondary school	37	13.6
	High school	73	26.8
	University	33	12.1
Occupation	Unemployed	80	29.4
	Government official	20	7.4
	Retired	108	39.7
	Private sector	33	12.1
	Self-employed	31	11.4
Cohabiting people	Alone	32	11.8
	Only with the spouse	58	21.3
	Spouse and children	127	46.7
	Other	55	20.2
The status of previously having COVID-19	Yes	32	11.8
	No	240	88.2
The status of previously receiving inpatient treatment due to COVID-19	Yes	12	4.4
	No	260	95.6
The status of receiving COVID-19 discharge training	Yes	10	3.7
	No	262	96.3
The status of receiving discharge training in previous admissions	Yes	102	37.5
	No	170	62.5

COVID-19 discharge training, and 37.5% had received training in previous admissions.

The average scores obtained from the overall RHDS/SF and subscales were given in Table 2. Accordingly, the overall RHDS/SF score average was  $5.20 \pm 2.08$ , while it was  $5.45 \pm 3.46$  for personal status,  $0.69 \pm 1.45$  for knowledge,  $5.98 \pm 3.33$  for coping ability, and  $8.71 \pm 2.43$  for expected support.

A comparison of sociodemographic characteristics of the participants and the scores they received from the overall RHDS/SF and subscales were given in Table 3.

There was a statistically significant difference between the RHDS/SF and age, marital status, educational status, occupation, cohabiting people, duration of hospitalization, and status of receiving training

**TABLE 2:** The average scores obtained from the RHDS/SF and subscales.

Scales	$\bar{X} \pm SD$
Overall RHDS/SF	$5.20 \pm 2.08$
Personal status	$5.45 \pm 3.46$
Knowledge	$0.69 \pm 1.45$
Coping ability	$5.98 \pm 3.33$
Expected support	$8.71 \pm 2.43$

RHDS/SF: Readiness for Hospital Discharge Scale/Short Form;  
SD: Standard deviation.

in previous admissions ( $p < 0.05$ ). Accordingly, those who were not literate received lower average scores compared to secondary school, high school and university graduates; while those who were unemployed and retired received lower scores compared to those who were government officials, private sector em-

**TABLE 3:** Comparison of the overall scale and subscales scores with sociodemographic characteristics of the participants.

Characteristics	n	Subscales				Expected support X±SD
		RHDS/SF X±SD	Personal status X±SD	Knowledge X±SD	Coping ability X±SD	
Age	18-64	5.87±2.03	6.50±3.41	1.05±1.66	7.04±3.19	8.90±2.37
	≥65	4.56±1.94 T=5.466 p<0.001	4.42±3.19 T=5.205 p<0.001	0.31±1.07 MWU=6319.0 p<0.001	4.95±3.15 T=5.452 p<0.001	8.51±2.49 MWU=8197.5 p=0.047
Gender	Female	5.28±2.09	5.52±3.38	0.73±1.56	6.09±3.24	8.77±2.52
	Male	5.14±2.08 T=0.526 p=0.599	5.38±3.53 T=0.327 p=0.744	0.65±1.34 MWU=9061.5 p=0.771	5.89±3.42 T=0.504 p=0.615	8.66±2.36 MWU=8653.5 p=0.286
Marital status	Married	5.43±2.01	5.72±3.38	0.73±1.42	6.46±3.12	8.83±2.28
	Single	4.66±2.16 T=2.840 p=0.005	4.80±3.56 T=2.033 p=0.043	0.59±1.52 MWU=6564.5 p=0.016	4.85±3.57 T=3.748 p<0.001	8.42±2.75 MWU=7285 p=0.351
Educational status	Illiterate <sup>1</sup>	3.57±2.05	3.77±3.13	0.53±1.47	3.00±2.99	6.98±3.72
	Primary school <sup>2</sup>	4.81±1.85	4.76±3.25	0.43±1.46	5.44±3.02	8.63±2.51
	Secondary school <sup>3</sup>	5.68±1.83	6.16±3.28	0.59±1.23	6.86±2.63	9.09±1.65
	High school <sup>4</sup>	5.92±1.84	6.29±3.34	0.81±1.39	7.16±3.02	9.40±1.22
	University <sup>5</sup>	6.42±1.84 F=16.436 p<0.001	6.88±3.67 F=7.058 p<0.001	1.42±1.56 KW=31.70 p<0.001	7.97±2.79 F=20.352 p<0.001	9.42±1.32 KW=21.404 p<0.001
	Post hoc	<b>1&lt;3,4,5</b>	<b>1&lt;3,4,5</b>	<b>2&lt;4,5</b>	<b>1&lt;2,3,4,5</b>	<b>1&lt;2,3,4,5</b>
Occupation	Unemployed <sup>1</sup>	4.59±2.11	4.71±3.35	0.65±1.63	4.65±3.34	8.36±2.94
	Government official <sup>2</sup>	6.18±1.95	6.58±3.97	1.43±1.29	7.45±3.18	9.28±1.32
	Retired <sup>3</sup>	4.81±1.97	4.85±3.28	0.34±1.07	5.60±3.12	8.48±2.49
	Private sector <sup>4</sup>	6.36±1.73	6.82±3.07	1.47±2.10	7.70±2.74	9.48±1.35
	Self-employed <sup>5</sup>	6.28±1.72 F=9.442 p<0.001	7.24±3.30 F=6.065 p<0.001	0.71±0.82 KW=39.354 p<0.001	7.98±2.77 F=10.892 p<0.001	9.21±2.00 KW=7.866 p=0.097
Post hoc	<b>1,3&lt;2,4,5</b>	<b>4,5&gt;1,3</b>	<b>1,3&lt;2,4</b>	<b>1,3&lt;4,5</b>		
Cohabiting people	Alone <sup>1</sup>	3.63±2.56	4.16±3.74	0.59±1.95	4.02±3.56	5.77±4.20
	Only with the spouse <sup>2</sup>	4.87±2.05	4.62±3.33	0.51±1.47	5.88±3.02	8.47±2.47
	Spouse and children <sup>3</sup>	5.83±1.79	6.33±3.24	0.85±1.32	6.84±3.12	9.32±1.41
	Other <sup>4</sup>	5.02±1.87 F=11.861 p<0.001	5.04±3.45 F=5.900 p<0.001	0.56±1.38 KW=17.809 p<0.001	5.25±3.40 F=8.028 p<0.001	9.26±1.47 KW=29.644 p<0.001
Post hoc	<b>3&gt;1,2</b>	<b>3&gt;1,2</b>	<b>3&gt;1,2,4</b>	<b>3&gt;1,4</b>	<b>1&lt;2,3,4</b>	

**TABLE 3:** Comparison of the overall scale and subscales scores with sociodemographic characteristics of the participants (continuing).

Characteristics	n	Subscales			Expected support X±SD
		RHDS/SF X±SD	Personal status X±SD	Knowledge X±SD	
The status of previously having COVID-19	Yes	5.10±2.01	5.29±3.03	0.78±2.12	8.70±2.30
	No	5.22±2.09	5.46±3.51	0.68±1.34	8.71±2.46
The status of previously receiving inpatient treatment due to COVID-19	Yes	T=-0.295 p=0.768	4.21±3.06	2.08±3.65	8.25±3.31
	No	4.85±2.73	5.50±3.47	0.63±1.24	8.73±2.39
The status of receiving COVID-19 discharge training	Yes	T=-0.600 p=0.549	T=-1.271	MMWU=1431.5	MMWU=1507.5
	No	5.31±2.27	p=0.205	p=0.556	p=0.809
The status of receiving discharge training in previous admissions	Yes	5.20±2.08	3.60±2.04	2.60±3.05	9.20±1.93
	No	T=0.162 p=0.872	5.51±3.48	0.62±1.31	8.69±2.45
Duration of hospitalization	Yes	4.84±2.06	4.68±3.35	0.82±1.53	8.56±2.60
	No	5.43±2.07	5.90±3.44	0.61±1.39	8.80±2.33
		T=-2.259 p=0.025	T=-2.848	MMWU=8027.5	MMWU=8346.0
		RHDS/SF scale	Personal status	Knowledge	Coping ability
		r=-0.121 p=0.047	r=-0.047 p=0.438	r=-0.062 p=0.310	r=-0.181 p=0.003

T: Independent samples t-test value; F: Analysis of variance value; MMWU: Mann-Whitney U value; KW: Kruskal-Wallis value; p: Significance value; RHDS/SF: Readiness for Hospital Discharge Scale/Short Form; SD: Standard deviation.

ployees and self-employed; those living with their spouse and children received higher scores compared to those living alone or only with the spouse.

There was a statistically significant difference between the personal status subscale and age, marital status, educational status, occupation, cohabiting people and receiving discharge training in previous admissions (p<0.05). Accordingly, those who were illiterate received lower scores from the subscale compared to secondary school, high school and university graduates; while those who were unemployed and retired received lower scores compared to those who were government officials, private sector employees and self-employed; and those living with their spouse and children received higher scores compared to those living alone or only with the spouse.

A statistical significance was found between the knowledge subscale and age, marital status, educational status, occupation, cohabiting people, and status of receiving COVID-19 discharge training (p<0.05). Accordingly, primary school graduates received lower scores compared to high school and university graduates; those who were unemployed and retired received lower scores compared to government officials and private sector employees; and those living with their spouse and children received higher scores compared to those living alone and only with the spouse.



There was a statistically significant difference between the coping ability and age, marital status, educational status, occupation, cohabiting people, duration of hospitalization and status of receiving discharge training in previous admissions ( $p<0.05$ ). Accordingly, those who were illiterate received lower scores compared to primary, secondary, high school and university graduates; those who were unemployed and retired received lower scores compared to private sector and self-employed employees, those living with their spouse and children received higher scores compared to other group.

A statistical significance was found between the expected support subscale and age, educational status and cohabiting people ( $p<0.05$ ). Accordingly, illiterate people had lower average scores compared to primary, secondary, high school and university graduates; while those living alone had lower scores compared to those living only with the spouse, and living with the spouse and children.

Simple linear regression analysis was performed to determine the contributions of factors related to discharge readiness of COVID-19 patients. Independent variables that had a significant correlation with the discharge rates were included in the regression analysis. Considering the overall score average, a negatively low correlation was found ( $\beta=-0.378$ ,  $p<0.001$ ). The simple linear regression result of the established model ( $F=44.947$ ,  $p<0.001$ ) was found to be significant. According to the established model, 14.3% of the overall score was explained by age.

## DISCUSSION

The aim of this study is to determine whether there is a correlation between the discharge readiness of COVID-19 patients and the influencing factors.

In the study, it has been found that patients who receive inpatient treatment with the diagnosis of COVID-19 are not ready to be discharged according to their self-reports. In addition, when the studies conducted with different research samples before COVID-19 are examined, it has been determined that the patients are not ready for discharge, similar to the findings in this study.<sup>21,28</sup> However, there are also studies indicating high discharge readiness

scores.<sup>23,24,29</sup> The fact that patients are not adequately prepared for discharge can be explained by the high proportion of those who have not received discharge training and those with low level of education.<sup>28</sup>

According to the patients' self-reports, the highest score has been obtained from the expected support subscale, while the lowest score has been obtained from the knowledge subscale. There are studies supporting the current findings, while another study reports that the highest score is obtained from the personal status and the lowest score is obtained from the expected support.<sup>6,16,28,30,31</sup> The emergence of this national and international difference can be associated with the social structure of Türkiye. There is a large family structure in Türkiye, which emphasizes the importance of taking care of the sick and elderly in the family.<sup>6</sup> The low scores obtained from the knowledge subscale can be associated with the high proportion of those who have not received discharge training related to COVID-19, the nursing shortage, patients not adequately being informed to reduce contact, and low educational level of majority of the patients participating in the study.<sup>12,28</sup>

According to the World Health Organization, old age is considered as "65 years and above".<sup>32</sup> Chronic diseases of the population aged 65 and over are increasing in our country.<sup>33</sup> For this reason, the age group in the study was classified as under and over 65 years of age. In the current study, as patients' age has increased, the overall scale score and subscale scores have decreased. Similarly, there are studies supporting this finding.<sup>6,28</sup> Coffey and McCharty reports that patients aged 80 and over have lower level of knowledge and coping ability and higher expected support compared to patients under the age of 80.<sup>31</sup> Having support at home can make the transition from hospital to home easier. In particular, as the age of COVID-19 patients increases, their chronic diseases also increase and the course of the disease worsens.<sup>11</sup> The insufficient number of nurses in the hospital and the inability of nurses to take care of patients adequately to reduce contact, as well as situations such as the lack of companion, has made the expected support subscale both emotionally and physically significant.

In the current study, the scores that married patients have obtained from the overall RHDS/SF, personal status, coping ability and knowledge subscales are higher compared to single patients. Turan et al. reports that marital status has a significant effect on the coping ability, and single patients receive higher scores. In a study by Kaya et al., it has been found that married patients have higher coping abilities, which is consistent with the current study.<sup>6,28</sup> The higher discharge readiness of COVID-19 patients who are married compared to singles is associated with the fact that they receive help and support from family members after discharge.

In the current study, it has been determined that the overall RHDS and subscale scores increase significantly as the educational level increase. Similar to the current results, it is reported in previous studies that patients with a high level of education feel more ready for discharge.<sup>6,34</sup> Patients with a high level of education may be in a better position than other patients to have research and information about COVID-19. Therefore, they may feel more ready for discharge.

In our study, a statistically significant relationship has been found between employment status and the overall RHDS/SF score, personal status, coping ability, and knowledge subscale scores. Similarly, previous studies report that the level of discharge readiness of employed patients is higher.<sup>28,35</sup> In a study by Liang et al., conducted in 2022 with patients undergoing cardiac valve replacement, it has been found that retired patients have the lowest readiness, those who are employed rank in the middle, while unemployed participants have the highest readiness.<sup>29</sup> In the current study, it can be concluded that those who are unemployed and retired have received lower average scores. The fact that self-employed and private sector employees have received higher readiness scores can be associated with the desire to be immediately discharged from the hospital due to employment termination and salary deduction in the COVID-19 period.

In the current study, a statistically significant relationship has been found between the cohabiting people and overall RHDS/SF, personal status, cop-

ing ability, knowledge and expected support scores. In other words, the overall scores of patients living with their families during the COVID-19 process have been found to be high in terms of discharge readiness. In previous studies, it is reported that patients who live alone and have no one to support home care have lower levels of discharge readiness in terms of expected support, patient status and coping ability.<sup>21,35</sup> Due to the socio-cultural characteristics of Türkiye, it is important to take care of the sick and elderly in the family.<sup>21</sup> The high risk of transmission and death in COVID-19 cases, unlike other diseases, have caused patients to undergo the disease process in isolation from their families at home or in the hospital. However, patients with families have received social support (video calls on the phone etc.), and their needs for food etc. have been met by family members with protective measures such as masks. In such pandemic diseases, infected individuals can be very weak, tired, feverish, in addition to experiencing respiratory distress, and thus, the support of the family has been also very important to meet the patients' self-care needs.

A statistically significant relationship has been found between the overall RHDS/SF and coping ability subscale scores. Similarly to the current study, in a study conducted with surgical patients, it has been reported that those who are hospitalized for a short period have higher levels of discharge readiness.<sup>35</sup> Increased length of hospital stay reduces the likelihood of being ready for discharge.<sup>6</sup> In study by Turan et al., conducted in, the duration of hospitalization has been found to affect the coping ability of patients.<sup>28</sup> Patients who have been diagnosed with COVID-19 may not feel ready to be discharged since the hope of recovery decreases as the length of hospitalization increases, as well as the aggravation of the course of the disease.

A statistically significant relationship has been found between receiving discharge training and the overall RHDS/SF, personal status, knowledge and coping ability subscale scores. It has also been determined that the knowledge subscale score of patients who have not received training is lower compared to other subscales. In a study by Zang et al., the score of knowledge subscale has been found to be relatively



low.<sup>23</sup> Discharge training is a very important component of discharge readiness since it provides patients with necessary knowledge and skills, decision making skills, in other words, for problem-solving skills and improving their health, to manage their health at home themselves.<sup>9</sup> Since COVID-19 is being experienced for the first time, clarifying an unknown situation, informing nurses about the disease and home care processes can improve the personal condition of patients. Due to reasons such as the very intensive work of nurses in the COVID-19 process and the reduction of contact with patients, the inability to adequately conduct discharge training may have caused such outcomes. In studies conducted before COVID-19, it has been revealed that nurses also have not had the necessary knowledge for discharge planning and training and have been unable to provide an appropriate and effective discharge service for reasons such as lack of time and patient-specific factors.<sup>13,14</sup>

## CONCLUSION

It has been found that COVID-19 patients are not adequately prepared for discharge from the hospital, the highest score has been obtained from the expected support subscale, and the lowest score has been obtained from the knowledge subscale. Therefore, the knowledge subscale is the one with the greatest opportunity for improvement. The knowledge subscale shows how much the patient knows about the problems that may occur after going home and the restrictions that they must comply with. This is probably the subscale where health professionals can intervene most easily. However, reasons such as staff shortage and the high number of patients have made the work of particularly nurses providing front-line services even more difficult during the COVID-19 period. Healthcare professionals can increase the level of discharge readiness through ensuring that COVID-19 patients are better informed about these issues. Due to the high contagiousness of the disease and the workload, patients' readiness for discharge can be provided through distance training (television in their rooms, video method). Patients' age, marital

status, educational status, occupation, cohabiting people, duration of hospitalization, and the status of receiving discharge training in previous admissions have been found to affect their readiness for discharge. It is recommended that effective discharge training be provided by nursing and hospital management by taking measures to reduce the risk of contamination, taking into account the factors affecting the patients' readiness for discharge. The discharge needs of the elderly are greater than those of young patients, and their perception of readiness for discharge should play a big role in their process. Appropriate discharge training for patients and caregiver family members is the most important indicator of discharge readiness in older adults. It is recommended to investigate in detail the organizational reasons why COVID-19 patients are not adequately prepared for hospital discharge, as well as other reasons why nurses cannot conduct adequate discharge training.

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*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### Authorship Contributions

**Idea/Concept:** Ayşe Yıldız Keskin, Ayşegül Yılmaz, Nalan Süren; **Design:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **Control/Supervision:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **Data Collection and/or Processing:** Nalan Süren; **Analysis and/or Interpretation:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **Literature Review:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **Writing the Article:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **Critical Review:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **References and Fundings:** Ayşe Yıldız Keskin, Ayşegül Yılmaz; **Materials:** Ayşe Yıldız Keskin, Nalan Süren.

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