Original Article

Covid-19 Fear, Burnout and Care Behaviors of Nurses in the Covid-19 Pandemic: A Descriptive and Correlational Research

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Abstract
Background: The COVID-19 pandemic caused psychological stress and burnout in nurses due to fear of infection, increased workload, and uncertainty. This may negatively impact care quality, especially among nurses in pandemic hospitals.
Aims: The study aimed to identify factors affecting COVID-19 fear, burnout, and care behaviors of nurses in a pandemic hospital and examine their relationships.
Methodology: A descriptive, cross-sectional, and correlational study was conducted with 131 nurses from two pandemic hospitals in Ankara, Turkiye. Data were collected using the Nurse Information Form, COVID-19 Fear Scale, Maslach Burnout Inventory, and Caring Behaviors Scale-24. Analyses were performed using SPSS v23, with descriptive statistics, t-test, Mann-Whitney U, Kruskal-Wallis, and Spearman correlation tests.
Results: Median COVID-19 fear score was 21; burnout medians: 23 (emotional exhaustion), 7 (depersonalization), 19 (personal accomplishment). Caring behavior subscale medians: respectfulness 4.16, commitment 4.00, knowledge-skill 5.00, assurance 4.37, total score 4.33. Caring behaviors were significantly lower among nurses with severe COVID-19, affected family members, extended hours, relationship strain, or family separation difficulty ($p < .05$). Increased COVID-19 fear and burnout were linked to decreased caring behaviors ($p < .05$).
Conclusions: Nurses experienced fear and burnout during the pandemic, negatively affecting caring behaviors. Addressing nurses' mental health is vital to protect care quality. It is recommended to increase professional-psychological support, and create support systems specific to crisis periods.
Keywords: pandemic, COVID-19 fear, burnout, caring behavior, nurse.

Introduction

The Covid-19 pandemic led to significant psychological problems due to stress and traumatic experiences. Uncertainties, limited access to health services, and fear of infection or transmission increased stress levels (Dogan et al., 2021; Erten et al., 2024; Gencer, 2020). Nurses, as frontline workers in disasters and epidemics, were among the most affected. Nurses who have been diagnosed with Covid-19 or who are in the same environment with

high-risk individuals and provide health services to them have experienced more fear of virus transmission. This fear caused nurses to experience various mental problems (Kaplan et al., 2021; Vargas et al., 2023). Long working hours, protective equipment, and lack of family or social support further aggravated stress (Gocmen & Eyuboglu, 2020; Hicdurmaz & Uzar-Ozcetin, 2020), which negatively impacted patient care quality (Arpacioglu et al., 2021; Kaplan et al., 2021).

Burnout, defined as psychological and physiological exhaustion with loss of motivation (Leiter et al., 2014; Montañés Muro et al., 2023), is particularly common in nursing due to intense workload, constant patient contact, insufficient resources, and lack of financial compensation (Gulbayrak & Mavili Aktas, 2020; Uzun & Mayda, 2020). The pandemic's uncertainties and stress heightened burnout levels (Hur et al., 2022).

Although fear and burnout among nurses are well-studied, research on their link to nursing care remains limited (Nantsupawat et al., 2023). It is predicted that nurses working in pandemic hospitals are an important risk group for experiencing Covid fear and burnout. However, studies examining the factors affecting the care behaviors of nurses working in pandemic hospitals are limited. The aim of this study was to determine the factors affecting Covid-19 fear, burnout level and care behaviors of nurses working in pandemic hospitals and to examine the relationship between them.

Methods

Study Design and Participants: The study was descriptive, cross-sectional and correlational. The research data were collected between March 30 and May 30, 2021, in two pandemic hospitals located in Ankara. The population of the study consisted of a total of 155 nurses working in two hospitals declared as pandemic hospitals in Ankara. An attempt was made to reach the entire population. A total of 131 nurses working in the pandemic service or Covid intensive care unit who agreed to participate in the study were included in the study. Twenty-four nurses who were on assignment at different hospitals, on report, unwilling to participate in the study, and working in a department other than the pandemic service (sterilization, pharmacy) were excluded from the study.

Data Collection & Tools: The data of the study were collected face-to-face through a questionnaire form. The questionnaires were completed by the nurses. It took approximately 15-20 minutes to complete the questionnaires.

Nurse Information Form: The form prepared by the researchers consisted of 21 questions including sociodemographic data (educational status, marital status, gender, etc.) and information about the working process during the pandemic (working year, working conditions during the pandemic, Covid-19 diagnosis, etc.).

COVID-19 Fear Scale: The validity and reliability of the scale developed by Ahorsu et al. (2020) to measure the Covid-19-induced fear levels of individuals was conducted by Ladikli et al. in 2020. The scale consists of seven items on a five-point Likert scale (1=strongly disagree; 5=strongly agree). There are no reverse items in the scale. The increase in the score indicates an increase in the fear of getting Covid-19. Ladikli et al., reported the Cronbach's alpha internal consistency coefficient as 0.86 (Ladikli et al., 2020). In our study, the internal consistency Cronbach Alpha coefficient was 0.89.

Maslach Burnout Scale (MBS): The scale was developed by Maslach and Jackson in 1981 and the Turkish validity and reliability study was conducted by Ergin in 1992. While the original form of the scale consisted of a 7-point Likert scale, it was changed to a 5-point Likert scale by Ergin on the grounds that it did not fit Turkish culture. It was scored in the range of never=0, always=4 (Ozmen, 2016). The scale consists of 22 items and 3 sub-dimensions. These are Emotional Exhaustion (9 items), Personal Achievement (8 items) and Depersonalization (5 items). The personal accomplishment sub-dimension consists of positive statements, while the emotional

exhaustion and depersonalization sub-dimensions contain negative statements. Scoring is done separately for each sub-dimension of the scale. It is not possible to obtain a total score from the scale. While the increase in the score of the personal achievement sub-dimension indicates a decrease in burnout, the increase in the scores of the emotional exhaustion and depersonalization sub-dimensions indicates an increase in burnout (Celik, 2020). Maslach and Jackson calculated the Cronbach's Alpha values of the scale as 0.83 for the emotional exhaustion subscale, 0.72 for the depersonalization subscale, and 0.67 for the personal accomplishment subscale. Ergin, who took the Turkish validity and reliability, found it as 0.840, 0.694 and 0.792, respectively (Yilmaz, 2016). In our study, 0.918, 0.790, 0.756 were found, respectively.

Caring Behaviors Scale-24 (CBS-24): The "Care Behaviors Scale-42" developed by Wolf et al., in 1994 was revised by Wu et al., (2006) and transformed into the short form "Care Behaviors Scale-24" (Wu et al., 2006). Turkish validity and reliability were conducted by Kursun and Kanan (2012). The scale consists of knowledge-skill (5 items), respectfulness (6 items), commitment (5 items) and assurance (8 items) sub-dimensions. The scale consists of 24 questions and uses a 6-point Likert scale (6= always, 1= never). The internal consistency of the scale ranged between 0.82-0.92 in subgroups and 0.96 in total (Kursun & Kanan, 2012). In our study, Cronbach's Alpha values were calculated as 0.973 for the total. When calculating the total score of the scale, the scores of 24 items are summed and divided by 24 to obtain a scale score between 1-6. For the calculation of the sub-dimensions, the scores of the items in the sub-dimensions are summed for each sub-dimension and the obtained score is divided by the number of items to obtain sub-dimension scores between 1-6 points (Kursun & Kanan, 2012).

Data Analysis: Statistical analyses were conducted using IBM SPSS 23. Descriptive statistics were presented as mean ± standard deviation for normally distributed variables, and median (min–max) for non-normal data. Categorical variables were summarized as frequencies and percentages. Normality was assessed using the Kolmogorov-Smirnov test, histograms, boxplots, and Q-Q plots. For group comparisons, the independent samples t-test was used when assumptions were met, and the Mann-Whitney U test otherwise. In comparisons of more than two groups, Kruskal-Wallis analysis was applied, followed by Dunn-Bonferroni tests for pairwise differences. Relationships between scales and sub-dimensions were examined with Spearman's correlation. Variable selection was performed using backward elimination. A p-value $< .05$ was considered statistically significant.

Ethical consideration: Approval was obtained from Bursa Uludag University Health Sciences Research and Publication Ethics Committee (27.01.2021, No: 2021-01) and the Ministry of Health Scientific Research Platform (27.12.2020, No: 2020-12-25T16_13_01). Verbal consent was obtained from all participating nurses.

Results

Data on Sociodemographic Characteristics and Working Process of Pandemic Nurses

The sociodemographic characteristics of the nurses who participated in our study and the data on their working processes are given in Table 1. Of the participating nurses, 90.8% were female, 62.6% were married, and 73.3% were undergraduate graduates. Before the pandemic, 64.9% of the nurses were working in the ward, while 72.5% reported working in the pandemic ward during the pandemic period. 52.7% of the nurses stated that they were not satisfied with their profession. 54.2% of the participants reported that they had Covid-19 and 41.4% of them were moderately affected. While 79.4% of the nurses reported that a relative had Covid-19 and 20.6% reported that they lost a relative due to Covid-19, most of these people were first-degree relatives. The rate of those who worked overtime was 63.4% and 77.1% of nurses reported that they had

difficulties in working conditions and the use of personal protective equipment (PPE), 87% reported that the number of patients increased and 74% reported that their care behaviors were negatively affected. The rate of those who were dissatisfied with additional payments was 96.2%, and the rate of those who stated that their relationships with others were negatively affected was 94.3%. 83.2% of the participants stated that they isolated themselves from their families, and the most difficult area for them was social life changes.

COVID-19 Fear Data of Pandemic Nurses

The Covid-19 fear data of the nurses in our study are given in Table 2. The median score of the nurses' fear of Covid-19 scale was 21 (7-35). The fear scores of female nurses were significantly higher than those of male nurses (p=0.005). Similarly, the fear scores of nurses who were dissatisfied with their profession and those who had Covid-19 were significantly higher (p=0.045; p=0.040). As the number of patients under care increased, fear of Covid-19 increased (p=0.025). The level of fear was higher in nurses whose family relationships were negatively affected and who were away from their children (p=0.014; p=0.010). No difference was found in Covid-19 fear scores in terms of other sociodemographic (age, marital status, education level), working (year, clinic, working time, overtime, difficulty in using PPE and care behaviors) and Covid (history of covid, loss of relatives, change in social relations, isolation and other difficulties) related characteristics (p>0.05).

Burnout Data of Pandemic Nurses

The burnout data of pandemic nurses are shown in Table 3. According to the Maslach Burnout Scale, the median scores of the nurses in our study were: emotional exhaustion 23, depersonalization 7 and personal accomplishment 19. A significant difference was found in emotional exhaustion scores in terms of educational status and this difference was explained by the low burnout level of high school graduates (p=0.021). No difference was found in other sub-dimensions in terms of educational status. Those who were dissatisfied with their profession had higher emotional exhaustion and depersonalization scores and lower personal accomplishment scores (p<0.01). Before the pandemic, a significant difference was found between the service and personal accomplishment; the scores of those working in the ward were higher than those working in the primary intensive care unit (p=0.004). Those who worked overtime had higher emotional exhaustion scores (p=0.026).

Those who thought that their care behaviors were negatively affected had significantly higher depersonalization scores (p=0.010). Those whose relationships with coworkers were negatively affected also had higher depersonalization scores (p=0.024). Nurses who thought that the behavior of the people around them had changed had higher emotional exhaustion scores. Similarly, emotional exhaustion increased in those whose family relationships deteriorated and who were away from their children (p<0.05). No significant difference was found between burnout scores and age, gender, marital status, clinic worked in during the pandemic, Covid-19 status, loss of relatives, overtime work, use of PPE, increase in the number of patients, isolation and other difficulties (p>0.05).

Care Behavior Data of Pandemic Nurses

The data on the caring behaviors of the nurses in our study are given in Table 4. The median values of the sub-dimensions in the caring behaviors scale were found to be: respectfulness 4.16; commitment 4; knowledge-skill 5; assurance 4.37; and total score 4.33, respectively. No significant relationship was found between marital status and gender and total score of care behaviors (p>0.05). A significant difference was found between educational status and total score; the scores of high school graduates were higher than the other groups (p= 0.003). Those who were satisfied with their profession had significantly higher care behaviors scores (p<0.01). It was determined that nurses working in the ward

before and during the pandemic had significantly higher care behavior scores compared to other departments ($p<0.05$).

The scores of nurses who did not have Covid-19 were higher than those who did, and those who had asymptomatic Covid-19 exhibited more positive care behaviors ($p<0.05$). The total score was significantly lower in those whose family members had Covid-19 ($p= 0.018$). The care behaviors score of nurses who did not work overtime was higher ($p<0.01$). Those who thought that their caring behavior was negatively affected had lower total scores ($p= 0.034$). Nurses who had a positive relationship with their colleagues had higher care behaviors scores ($p<0.01$). The care behaviors score of nurses who stated that they received negative reactions from their environment was lower. Those with positive family relationships had a higher total score ($p= 0.045$). Nurses who stayed away from their children had lower care behaviors scores ($p<0.020$). No significant difference was found in terms of working time, difficulty in the use of PPE, increase in the number of patients, isolation, loss of relatives and other difficulties and care behaviors ($p>0.05$).

The Relationship Between Covid-19 Fear, Burnout Level and Care Behaviors of Pandemic Nurses

A significant positive correlation was found between fear of Covid-19 and depersonalization and emotional exhaustion sub-dimensions of Maslach burnout scale ($p<0.05$). As fear increased, burnout levels in these two dimensions also increased. On the other hand, no significant relationship was found between personal accomplishment and fear of Covid-19 ($p>0.05$).

A significant negative correlation was found between fear of Covid-19 and care behaviors sub-dimensions and total score ($p<0.05$). As the level of fear increases, nurses' care behavior scores decrease.

Similarly, depersonalization and emotional exhaustion dimensions of burnout are negatively associated with caring behaviors ($p<0.05$). An increase in these sub-dimensions negatively affects caring behaviors. On the other hand, there was a positive relationship between personal accomplishment and caring behaviors; as personal accomplishment increased, all sub-dimensions and total score increased. The r and p values of these data are shown in Table 5.

Table 1. Nurse Information Form Data

Variables	n	%	Variables	n	%
Gender			**Working during working hours normal**		
Woman	119	90.8	Yes	48	36.6
Male	12	9.2	No.	83	63.4
Marital status			**Overtime worked (n=83)**		
Married	82	62.6	+0-24 hours	28	33.7
Single	49	37.4	+24-48 hours	42	50.6
			+48 and above	13	15.6
Education status			**Difficulty in the work environment or using PPE**		
High School	11	8.4			
Associate degree	24	13.8	Yes	101	77.1
License	96	73.3	No.	30	22.9

Satisfaction with the profession			**Increase in the number of patients cared for**	114	87.0
I am satisfied	62	47.3	Yes	17	13.0
Not satisfied	69	52.7	No.		
Clinical trials studied before the pandemic			**Negative impact on care behaviors**		
Service	85	64.9	Yes	97	74.0
1st line intensive care	13	9.9	No.	36	26.0
3rd level intensive care	33	25.2			
Pandemic-era clinic studied			**Changes in relationships with colleagues**		
Pandemic service	95	72.5	Positive	60	45.8
COVID intensive care	36	27.5	Negative	71	54.2
COVID-19 transmission status			**Satisfaction with additional payments**		
Yes	71	54.2	I am satisfied	5	3.8
No.	60	45.8	Not satisfied	126	96.2
Disease severity of those who had the disease (n=71)			**Change in the behavior of the people around you**		
			Yes	107	81.7
Asymptomatic	6	7.1	No.	24	18.3
Lightweight	25	35.7			
Middle	29	41.4			
Heavy	11	15.7			
COVID-19 in your family			**People's behavior (n=107)**		
Yes	104	79.4	Positive direction	7	5.7
No.	27	20.6	Negative direction	100	94.3
Proximity of COVID-19 transmitter			**Isolating oneself from the family**		
1st degree	65	62.5	I did	109	83.2
2nd degree	23	22.1	I didn't	22	16.8
3rd degree and other	16	15.4			
Relative who passed away due to COVID-19			**Impact on family relationships**	11	8.4
There is	27	20.6	Positive	120	91.6
No	104	79.4	Negative		
			Most difficult situation*		
			Staying away from children	46	17
			Staying away from parents	60	22.5
			Changes in social life	101	38
			Negative perspective of the society	60	22.5
Total	**131**	**100**	**Total**	**131**	**100**

Table 2. Factors Affecting Participants' Covid Fear Levels

Variable	Hydrangea (min-max)	P value	Variable	Hydrangea (min-max)	P value
Gender			**Working during normal working hours**		
Woman	22 (7-35)	**0.005**	Yes	21.5 (9-35)	0.716
Male	17 (10-25)		No.	20 (7-34)	
Marital status			**Overtime worked**		
Married	23.5 (9-33)	0.079	+0-24 hours	19.5 (9-32)	0.584
Single	20 (7-35)		+24-48 hours	24 (9-33)	
			+48 and above	20 (7-34)	
Education status			**Difficulty in the work environment or using PPE**		
High School	19 (9-33)	0.130			
Associate degree	26 (10-35)				
License	21 (7-34)		Yes	21 (7-35)	0.954
			No.	20.5 (9-34)	
Satisfaction with the profession			**Increase in the number of patients cared for**		
I am satisfied	20 (9-35)	**0.045**	Yes	21.5 (7-35)	
Not satisfied	25 (7-34)		No.	16 (9-30)	**0.025**
Clinical trials studied before the pandemic			**Negative impact on care behaviors**		
Service	20 (7-35)	0.110	Yes	22 (7-35)	0.116
1st line intensive care	23 (10-28)		No.	19 (9-33)	
3rd line intensive care	26 (9-34)				
Pandemic-era clinic studied			**Changes in relationships with colleagues**		
Pandemic service					
COVID intensive care	20 (7-35)	0.074	Positive	20 (7-35)	
	25 (9-33)		Negative	23 (9-34)	0.358
COVID-19 transmission status			**Change in the behavior of people around you**		
Yes	24 (7-34)	**0.040**	Yes	21 (7-33)	
No.	19 (9-35)		No.	20.5 (9-35)	0.508
Severity of illness of those who had it			**Isolating oneself from the family**		
Asymptomatic	16 (9-25)	0.298	I did	22 (7-35)	0.078
Lightweight	26 (7-31)		I didn't	17.5 (9-33)	
Middle	24 (9-34)				
Heavy	20 (12-33)				
COVID-19 in your family			**Impact on family relationships**		
Yes					
No.	21 (7-35)	0.069	Positive	14 (9-28)	**0.014**
	20 (9-33)		Negative	21 (7-35)	

Proximity of COVID-19 transmitter			**The most difficult situation**		
1st degree	24 (7-35)	0.163	**Staying away from children**		
2nd degree	23 (12-31)		Yes	25.5 (14-33)	**0.010**
3rd degree and other	18.5(13-28)		No.	20 (7-35)	
Relative who passed away due to COVID-19			**Staying away from parents**		
There is	22 (7-35)	0.061	Yes	22 (9-35)	0.161
No	21 (9-33)		No.	20 (7-34)	
			Changes in social life		
			Yes		
			No.	23 (7-35)	0.117
			Negative perspective of the society	18 (10-33)	
			Yes	22.5 (9-35)	
			No.	20 (7-34)	0.149

Table 3. Factors Affecting Participants' Burnout Levels

Variables	Emotional Exhaustion Median (min-max)	Depersonalization Median (min-max)	Personal Success Median (min-max)	Variables	Emotional Exhaustion Median (min-max)	Depersonalization Median (min-max)	Personal Success Median (min-max)
Gender				**Working during normal working hours**	**Mean±SD**		**Mean±SD**
Woman	23 (3-36)	7 (0-20)	20 (10-32)	Yes	20.91±7.75	7 (0-20)	20.31±4.68
Male	26.5 (9-36)	11 (2-20)	18 (13-32)	No.	24.06±7.64	8 (0-20)	19.42±4.86
P value	0.130	0.075	0.333	P value	**0.026**	0.276	0.308
Marital status	Mean±SD		Mean±SD	**Overtime worked**			
Married	23.43±7.24	7 (0-20)	20.00±4.41	+0-24 hours	24 (9-36)	7 (0-20)	19 (12-32)
Single	22.02±8.66	8 (0-20)	19.00±5.42	+24-48 hours	25 (8-36)	7 (0-19)	18 (10-31)
P value	0.316	0.268	0.433	+48 and above	26 (9-35)	10 (2-19)	21.5 (10-30)
				P value	0.904	0.172	0.169
Education status				**Difficulty in the work environment or using PPE**	**Mean±SD**		
High School	17 (4-36)	3 (0-20)	21 (13-32)				
Associate Degree	25.5 (8-35)	9 (1-15)	18.5(10-31)	Yes	23.23±7.32	7 (0-19)	19 (10-32)
License	24 (3-36)	7 (1-20)	19 (11-32)	No.	21.80±9.29	7 (0-20)	21.5 (12-32)
P value	**0.021**	0.240	0.191	P value	0.378	0.943	0.062
Satisfaction with the profession	**Mean±SD**		**Mean±SD**	**Increase in the number of patients cared for**			
I am satisfied	17.86±6.61	5.50 (0-18)	20.90±4.39	Yes	24 (3-36)	8 (0-20)	20 (10-32)
Not satisfied	27.49±5.67	9 (0-20)	18.72±4.94	No.	21 (9-33)	6 (0-14)	17 (13-27)
P value	**<0.001**	**<0.001**	**0.009**	P value	0.426	0.104	0.071
Clinical trials studied before the pandemic				**Negative impact on care behaviors**	**Mean±SD**		**Mean±SD**
Service					23.46±7.53	8 (0-20)	19.52±4.90
1st line intensive care	22 (3-36)	7 (0-20)	20 (10-32)	Yes	21.32±8.44	5 (0-19)	20.38±4.52
2nd level intensive care	25 (9-34)	6 (2-11)	16 (13-22)	No.	0.170	**0.010**	0.371
				P value			

3rd level intensive care	25 (8-36)	8 (0-19)	19 (10-31)				
P value	0.324	0.147	**0.004**				
Pandemic-era clinic studied	**Mean±SD**		**Mean±SD**	**Changes in relationships with colleagues**	**Mean±SD**	**Mean±SD**	**Mean±SD**
Pandemic service	22.30±7.58	7 (0-20)	19.77±4.78				
COVID intensive care	24.50±8.24	8 (0-20)	19.66±4.92	Positive	23.46±7.53	6.44±4.73	19.52±4.90
				Negative	21.32±8.44	8.47±4.36	20.38±4.52
P value	0.151	0.107	0.908	P value	0.170	**0.024**	0.371
COVID-19 transmission status			Mean±ss	**Change in the behavior of people around you**	**Mean±SD**		**Mean±SD**
Yes	24 (3-36)	8 (0-20)	19.18±4.86				
No.	21 (8-36)	7 (1-20)	20.42±4.67	Yes	23.63±7.66	8 (0-20)	19.83±5.02
P value	0.397	0.305	0.143	No.	19.66±7.76	6 (0-17)	19.37±3.71
				P value	**0.024**	0.309	0.616
Severity of illness of those who had it				**Isolating oneself from the family**	**Mean±SD**		
Asymptomatic	19 (13-27)	3 (0-15)	17 (12-21)	I did	22.93±7.76	7 (0-20)	19 (10-32)
Lightweight	25 (9-36)	9 (1-20)	18 (10-32)				
Middle	24 (3-36)	7 (0-15)	19 (11-29)	I didn't	22.77±8.17	7 (1-19)	20.5 (13-25)
Heavy	26 (9-36)	10 (3-19)	23 (13-31)				
P value	0.215	0.179	0.130	P value	0.929	0.739	0.540
COVID-19 in your family				**Impact on family relationship**			
Yes	24 (3-36)	8 (1-20)	19 (10-32)		17 (9-36)	6 (0-19)	20 (13-31)
No.	21 (4-36)	6 (0-20)	20 (12-32)	Positive	24 (3-36)	8 (0-20)	19 (10-32)
P value	0.833	0.074	0.820	Negative	**0.015**	0.151	0.300
				P value			
Proximity of COVID-19 transmitter				**The most difficult situation**	**Mean±SD**		**Mean±SD**
1st degree	23 (3-36)	8 (1-20)	20 (10-32)	**Staying away from children**			
2nd degree	26 (9-34)	8 (2-15)	19 (10-32)				
3rd degree and other	24.5(13-36)	8 (3-15)	19 (12-26)	Yes	25.10±7.53	7 (0-20)	19.06±4.65
				No.	21.71±7.72	7 (0-20)	20.11±4.87
P value	0.456	0.901	0.346	P value	**0.017**	0.796	0.233

Relative who passed away due to COVID-19				**Staying away from parents**			
				Yes	23.86±7.82	8 (0-20)	19.53±5.32
				No.	22.09±7.75	7 (0-20)	19.92±4.33
				P value	0.198	0.338	0.642
There is	24 (3-36)	7 (1-20)	19 (12-28)				
No	21 (4-36)	6 (0-20)	20 (10-32)	**Changes in social life**			
P value	0.071	0.802	0.158	Yes	23.51±7.65	7 (0-19)	19.53±4.84
				No.	20.86±8.07	7.5 (2-20)	20.46±5.76
				P value	0.103	0.841	0.351
				Negative perspective of the society			
				Yes	22.78±7.57	7 (0-17)	19.70±4.86
				No.	23.01±8.04	7 (1-20)	19.78±4.78
				P value	0.867	0.610	0.920

Table 4. Factors Affecting Participants' Care Behaviors

Variables	Total Median (min-max)	Variables	Total Median (min-max)
Gender		**Working during normal working hours**	
Woman	4 (2.96-6)	Yes	5 (3.17-6)
Male	3.70 (2.79-6)	No.	3.91 (2.79-6)
P value	0.076	P value	**<0.001**
Marital status		**Overtime worked**	
Married	4.27 (2.79-6)	+0-24 hours	4.22 (3.08-6)
Single	4.33 (3.08-6)	+24-48 hours	3.54 (2.79-6)
P value	0.920	+48 and above	3.41 (3-6)
		P value	0.171
Education status		**Difficulty in the work environment or using PPE**	
High School	5.33 (3.17-6)	Yes	4.29 (2.79-6)
Associate Degree	3.5 (2.79-6)	No.	4.87 (3.17-6)
License	4.33 (2.96-6)	P value	0.143
P value	**0.003**		
Satisfaction with the profession		**Increase in the number of patients cared for**	
I am satisfied	5.25 (3.25-6)	Yes	4.33 (2.79-6)
Not satisfied	3.45 (2.79-5.88)	No.	4.29 (3.08-5.88)
P value	**<0.001**	P value	0.984
Clinical trials studied before the pandemic		**Negative impact on car behaviors**	
Service	4.75 (3-6)	Yes	4.04 (2.79-6)
1st line intensive care	3.45 (3.08-5.96)	No.	4.89 (3.08-5.96)
3rd level intensive care	3.5 (2.79-6)	P value	**0.034**

P value	**0.003**		
Pandemic-era clinic studied		**Changes in relationships with colleagues**	
Pandemic service	4.54 (2.79-6)	Positive	5 (3.08-6)
Covid intensive care	3.58 (2.96-6)	Negative	3.54 (2.79-6)
P value	**0.010**	P value	**<0.001**
COVID-19 transmission status		**Change in the behavior of people around you**	
Yes	3.58 (2.79-6)	Yes	4.04 (2.79-6)
No.	4.87 (3.08-6)	No.	4.93 (3.21-6)
P value	**0.004**	P value	0.063
Severity of illness of those who had it		**Isolating yourself from the family**	
Asymptomatic	5.33 (5-5.88)	I did	4.29 (2.79-6)
Lightweight	3.41 (2.79-5.29)	I didn't	4.52 (3.25-6)
Middle	4.04 (2.96-6)	P value	0.598
Heavy	3.41 (3.17-6)		
P value	**0.006**		
Family history of COVID-19		Affecting **family relationships**	
Yes	4.06 (2.79-6)	Positive	5.25 (3.21-5.83)
No.	5 (3.17-6)	Negative	4.14 (2.79-6)
P value	**0.018**	P value	**0.045**
Proximity of COVID-19 transmitter		**The most difficult situation**	
1st degree	4.29 (2.96-6)	**Staying away from children**	
2nd degree	3.45 (2.79-5.83)	Yes	3.56 (2.79-6)
3rd degree and other	4.41 (3.08-5.63)	No.	4.75 (3.08-6)
P value	0.136	P value	**0.020**
Relative who passed away due COVID-19		**Staying away from parents**	
There is	3.45 (2.79-5.83)	Yes	4.06 (3-6)
No	4.41 (3.08-6)	No.	4.54 (2.79-6)
P value	0.495	P value	0.299
		Changes in social life	
		Yes	4.29 (2.79-6)
		No.	4.60 (3.13-6)
		P value	0.233
		Negative perspective of the society	
		Yes	4.31 (3.08-6)
		No.	4.33 (2.79-6)
		P value	0.857

Table 5. The Effect of Nurses' Fear of COVID-19 and Burnout Level on Care Behaviors

	COVID-19 Fear Scale		Maslach Burnout Scale					
	r	p	Depersonalization r	p	Emotional Exhaustion r	p	Personal Success r	p
Care Behavior Scale								
1. Respectfulness	-0.270	**0.002**	-0.536	**<0.001**	-0.716	**<0.001**	0.195	**0.026**
2. Commitment	-0.297	**<0.001**	-0.498	**<0.001**	-0.710	**<0.001**	0.221	**0.011**
3. Knowledge Skill	-0.215	**0.014**	-0.456	**<0.001**	-0.351	**<0.001**	0.362	**<0.001**
4. Assurance	-0.295	**<0.001**	-0.538	**<0.001**	-0.709	**<0.001**	0.306	**<0.001**
5. Total	-0.315	**<0.001**	-0.552	**<0.001**	-0.552	**<0.001**	0.261	**0.003**
COVID-19 Fear Scale			0.264	**0.002**	0.269	**0.002**	-0.030	0.739

Discussion

Covid-19 Fear Level of Pandemic Nurses and Affecting Factors

In our study, nurses' fear of Covid-19 was found to be at a moderate level, whereas many previous studies reported higher levels (Doshi et al., 2020; Jorgensen et al., 2021; Kaya & Gumus, 2024; Labrague & Los Santos, 2021). This difference may be due to the earlier timing of those studies, when uncertainties were greater. As our data collection coincided with the second wave, nurses may have adapted to the process.

Fear was higher among female nurses, consistent with evidence that women are more sensitive to stress and at greater risk of psychological effects (Bitan et al., 2020; De Simone et al., 2024; Doshi et al., 2020; Huang et al., 2020). The fact that the majority of the participants were women may have also affected this result.

Nurses dissatisfied with their profession reported greater fear. Some studies similarly found that fear of Covid-19 reduced job satisfaction and increased turnover intention (Kaya & Gumus, 2024; Labrague & Santos, 2021). Being on the frontline and facing high infection risk may contribute to this dissatisfaction.

Fear scores were also higher among nurses who had contracted Covid-19, likely due to previous difficulties, risk of recurrence, and anxiety of reliving the experience. While some studies support this association, others report no relationship (Unver & Yenigun, 2021; Yang et al., 2025). In addition, in our study, it was determined that the fear of Covid-19 increased with the increase in the number of patients. This may be explained by the fact that caring for more patients increases the risk of transmission.

Nurses whose family relationships were disrupted or who were separated from their children reported greater fear. Similarly, Celik and Kilic (2022) observed that nurses with high fear tended to distance themselves from family. It is thought that difficulties such as lack of social support and staying away from the family and fear of Covid-19 are important factors affecting each other.

Burnout Level of Pandemic Nurses and Affecting Factors

In our study, nurses' burnout during the pandemic was at a moderate level, whereas earlier research reported higher levels,

particularly in the initial phase (Akcay & Kazan, 2024; Huang et al., 2020). This difference may be related to the study's timing after the second wave, the introduction of protective measures such as vaccination, and the focus on state hospitals and small-scale institutions.

Burnout increased with higher education, consistent with findings that unmet professional expectations raise burnout (Hu et al., 2020; Zhang et al., 2020). In addition, nurses who were dissatisfied with their profession had higher burnout scores and lower personal achievement; this coincides with the relationship between job satisfaction and burnout, which is frequently emphasized in the literature (Akalin & Modanlioglu, 2021; Yuksel Kaçan et al., 2016).

In our study, burnout levels of nurses working overtime were found to be higher; it is also supported in the literature that long working hours and workload increase burnout (Ertal, 2021; Sampaio et al., 2020; Zhang et al., 2020). In addition, the burnout levels of nurses who experienced deterioration in their social relationships and stayed away from their families and children were also found to be higher. Lack of social support and loneliness are important factors that strengthen this process (Baltaci & Cosar, 2020; García & Calvo, 2020; Hou et al., 2020).

Burnout was higher in nurses who thought that their care behaviors were negatively affected by the pandemic; this finding also coincides with the limited literature (Jackson et al., 2020; Kıraner & Terzi, 2020).

Nurses' Care Behaviors and Affecting Factors During the Pandemic Period

In our study, nurses' caring behaviors were generally high during the pandemic, indicating that professional responsibilities were sustained under difficult conditions. Although consistent with much of the literature, some studies have reported decreases in caring behaviors (Inocian et al., 2021; Jiang et al., 2021).

The higher performance of female nurses in caring behaviors may be explained by the fact that gender roles increase empathy and caregiving tendency; however, there are also contradictory results in the literature regarding the gender effect (Erol & Turk, 2019; Ozcan, 2021). In our study, high school graduates had higher care behavior scores. This may be explained by the small number of high school graduates in the sample or the prominence of individual differences in the pandemic process. Both positive and neutral relationships between education level and care behaviors have been reported in the literature (Jiang et al., 2021; Yau et al., 2019).

Occupational satisfaction was associated with better care, whereas dissatisfaction negatively affected quality, as also highlighted in prior research (Alsubhi et al., 2020; Ozcan, 2021). Nurses working in wards before and during the pandemic demonstrated more positive care behaviors, while intensive care nurses may have been negatively affected by stress and burnout (Erol & Turk, 2019; Ozcan, 2021; Yau et al., 2019).

Caring behaviors were low in nurses who had Covid-19 and experienced severe symptoms; this may be related to disease anxiety and fatigue. Having a Covid-19 case in the family has a similar negative effect (Zhang et al., 2024). In addition, the weakening of care behaviors in those who work overtime is attributed to both physical and psychological fatigue (Celik, 2020; Torrente et al., 2021).

Negativities in the social environment and relationships have reduced care behaviors; it is also included in the literature that social support and positive relationships support work motivation and quality of care (Labrague & De Los Santos, 2020).

The Relationship between Covid-19 Fear, Burnout Level and Care Behaviors

In our study, it was observed that nurses' care behavior scores decreased with increasing fear of Covid-19. It is known that at the beginning of the pandemic, nurses experienced anxiety

about getting infected and transmitting the virus to their loved ones (Smith et al., 2021). This fear may have led to a decrease in patient contact and a decline in behaviors such as emotional support and involving the patient in care. In addition, the increasing number of patients and heavy workload reinforced this negative effect.

Care behaviors decreased with higher depersonalization and emotional exhaustion, while greater personal accomplishment was associated with better care. Previous studies also report that workload, exposure risk, and long hours during the pandemic increased burnout, reducing care quality (AlAteeq et al., 2020; Cevirme & Kurt, 2020). A positive correlation was found between fear of Covid-19 and depersonalization and emotional exhaustion, indicating that fear-induced stress negatively impacts relationships and professional sensitivity (Bitan et al., 2020; Yakut et al., 2020), possibly as a defense mechanism.

The fact that fear of Covid-19 did not affect the personal achievement score shows that nurses maintained their professional competence despite the pandemic conditions. In a period when even the closest ones stayed away from the patients, the effort to connect the patient to life may have kept the perception of personal success high.

Conclusion: Our study reveals that nurses working on the front lines during the pandemic experienced Covid-19 fear and burnout. These psychological effects also negatively affect nurses' care behaviors. Maintaining the psychological well-being of nurses, both in the pandemic and in other extraordinary situations, is critical to improve the quality of care. In this context, it is recommended to improve working conditions, increase professional-psychological support, and create support systems specific to crisis periods.

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