Araştırma makalesi

Research article

Determination of Burnout Status and Professional Commitment of Nurses Caring for Patients Diagnosed with COVID-19 in a Training and Research Hospital

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ABSTRACT

Aim: This research was conducted to determine the burnout status and commitment to the profession of nurses who provide care to patients diagnosed with COVID-19 in a training and research hospital.

Material and Methods: The research sample comprised 205 nurses caring for COVID-19 patients. In the collection of the data, "Descriptive Characteristics Form", "Burnout Scale (BS)", "Commitment to the Profession in Nursing Scale (NPCS)" were used.

Results: Nurses' BS mean score was 4.48±1.07, and it was determined that only 1% of them did not experience burnout. It was determined that the burnout status of 36.6% of them was at a crisis level. The average score of NPCS of the nurses was determined to be 68.73±13.14. A significant difference was found between the mean scores of total professional commitment and willingness to make an effort, according to the number of patients the nurses gave daily care to. A significant and negative correlation was found between the levels of professional commitment and burnout levels of nurses.

Conclusion: It was determined that almost all nurses working in pandemic service and intensive care units and providing care to COVID-19 patients experienced burnout, their level of professional commitment was above the average level, and commitment to the profession decreased as the level of burnout increased.

Keywords: Burnout, commitment to the profession, COVID-19, nurse, pandemic

ÖZ

Bir Eğitim ve Araştırma Hastanesinde COVID-19 Tanısı Almış Hastalara Bakım Veren Hemşirelerin Tükenmişlik Durumları ve Mesleğe Bağlılıklarının Belirlenmesi

Amaç: Bu araştırmada, bir eğitim ve araştırma hastanesinde COVID-19'lu hastalara bakım sağlayan hemşirelerin mesleğe bağlılık ve tükenmişlik düzeylerini saptamak amaçlanmıştır.

Gereç ve Yöntem: Çalışma tanımlayıcı desende tasarlanmıştır. Çalışmanın örneklemini COVID-19 hastalarına bakan 205 hemşire oluşturmuştur. Araştırmada veriler "Tanımlayıcı Özellikler Formu", "Tükenmişlik Ölçeği", "Hemşirelik Mesleki Bağlılık Ölçeği" kullanılarak toplanmıştır.

Bulgular: Hemşirelerin tükenmişlik ölçeği toplam puan ortalaması 4.48±1.07 olup, sadece %1'inin tükenmişlik yaşamadığı, %36.6'sının kriz düzeyinde tükenmişlik yaşadığı belirlenmiştir. Hemşirelerin mesleki bağlılık puan ortalaması 68.73±13.14 olarak bulunmuştur. Hemşirelerin günlük bakım verdiği hasta sayısına göre toplam mesleğe bağlılık ve çaba göstermeye isteklilik puan ortalamaları arasında anlamlı fark bulunmuştur. Hemşirelerin tükenmişlik düzeyleri ile mesleki bağlılık düzeyleri anlamlı ve negatif yönde bir korelasyon olduğu saptanmıştır.

Sonuç: Pandemi servis ve yoğun bakım ünitelerinde çalışıp, COVID-19 hastalarına bakım sağlayan hemşirelerin neredeyse tamamının tükenmişlik yaşadığı, mesleki bağlılık düzeylerinin orta seviyenin üzerinde olduğu, tükenmişlik düzeyi arttıkça mesleğe bağlılığın azaldığı belirlenmiştir.

Anahtar kelimeler: COVID-19, hemşire, mesleğe bağlılık, pandemi, tükenmişlik

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INTRODUCTION

In December 2019, a human coronavirus called coronavirus 2019 (COVID-19) was detected, which allegedly appeared in an animal market in Wuhan, China's Hubei province[1]. The disease spread rapidly and became an epidemic in other countries, especially in other provinces and provinces of China[2,3].

The coronavirus 2019, which is described as one of the most serious disasters of today, has revealed that the health systems of countries can be shaped by responding quickly to acute situations and that nurses are in a critical position in the health system[4,5]. Since the Florence Nightingale period, the beginning of modern nursing, nurses have made observations, evaluated, determined priorities, collaborated with the team, and managed care in extraordinary situations[6]. Looking at the historical process, it has been known that nurses are always at the forefront of fighting epidemics and taking responsibility. The best example of this situation is Florence Nightingale's Crimean War in 1854, in which thousands of soldiers lost their lives due to dysentery and cholera epidemics and poor patient care. Florence Nightingale reduced the mortality rate from 42% to 2.2% with her nursing care and practices during and after the war. World Health Organization (WHO) has often drawn attention to how nurses effectively manage the current pandemic process[7]. The value and importance of the concept of "care", the principle of nursing, has been understood again with the increase in the number of people infected in a very short time, especially the patients in need of intensive care[8,9]. Nurses are the health professionals with the closest contact with COVID-19 patients who require hospitalization due to their professional position[10-12].

This epidemic, which creates new norms all over the world, has also caused an increase in the workload of nurses and has forced professionals working in this profession to adapt to the new situation. This situation has become potentially quite stressful for nurses due to the complex nature of care[13]. During this process, nurses, the health professionals with the closest contact with the patients, have started to frequently witness the patients who come to the terminal period in a short time. This situation has increased the end-of-life caregiving status of nurses, and nurses have become the person who meets all the care needs of patients who cannot communicate with anyone, including their families, during their stay in the hospital. During the pandemic process, the number of patients per nurse has increased, the working system and order has changed, working hours and the responsible unit have changed, the risk of transmission of the disease is high, no cure has been found for the disease, and patients were cared for with protective equipment during busy working hours. These situations caused nurses to experience emotions such as stigma, fear, anger, anxiety, uncertainty and burnout [14].

Although the concept of burnout has existed in the literature for 40-45 years, different ideas are still being carried out on this concept. Emotional and spiritual exhaustion, depersonalization, emotional tension caused by interaction with individuals with health problems, decreased efficiency and effectiveness, low motivation, dysfunctional attitudes and behaviors, work stress, fatigue, dissatisfaction, mediocrity, overwork and depletion of energy resources are some of these ideas[15]. Compared to other professionals, burnout is much more common in professions where human relations and connections such as "health" are critical and require direct contact with people. In this context, when the relevant literature is examined, burnout, which is very severe, is a frequently observed condition among health professionals in Turkey and worldwide in research results other than the COVID-19 pandemic[16,17]. Başar's research (2020) on burnout syndrome in nurses before the pandemic, its causes, consequences, and preventive strategies, it was determined that the burnout levels of nurses were above the average, except for the COVID-19 pandemic[18]. If we look at the studies done during the epidemic, Sahin et al. (2020) reported that health workers working in hospitals declared as pandemic hospitals experienced high levels of burnout[19]. Similar to these results, Bellanti et al. (2020) found that nurses working in the field experienced high levels of burnout during the pandemic period[20]. When the epidemic's specific anxiety about getting sick, working with protective equipment, and increasing workload factors are added to these high rates, it is estimated that the burden and burnout on health workers increase, and it is thought that increasing burnout affects the professional commitment of nurses[21].

Professional commitment is the individual's acceptance of the values of the profession he/she works in or that he/she has recently chosen, making practices and attempts to realize these values, making efforts to become professional in the professional field, bringing her/his profession to a central point in his daily life, being a member of professional institutions and organizations related to her/his profession, and in the future, working in this profession is determined to continue[22]. Professional commitment in nursing is an active process that begins in the first years of nursing education and continues during the years of working in the nursing profession[23]. A nurse's understanding and acceptance of the values of her/his profession, as well as making attempts and making efforts to realize these values, wanting to develop her/his skills in the professional field, and being determined and determined to continue this profession define professional commitment in nursing[24]. Ozkan Sat et al. (2021) reported that nurses' NPCS total score averages above average during the time of COVID-19 infection[25]. Similarly, Duran et al. (2021) reported that nurses' professional commitment levels were above the medium level during the epidemic[26].

During the epidemic, nurses experience anxiety, uncertainty, and fear due to the difficulties brought on by the pandemic[14]. It is thought that these negative conditions affect the professional commitment levels of nurses and cause burnout in nurses, that our study will create an evidence-based prediction for the decision-makers and nursing services managers in the planning and execution of the pandemic process, and it will help nurses to create a

strategy to improve their burnout and nursing commitment levels.

Aim

This research was carried out to define the burnout and professional commitment levels of nurses caring for patients diagnosed with COVID-19 in a training and research hospital. The study questions are as follows;

What is the burnout level of nurses caring for patients with COVID-19?

What is the professional commitment level of nurses caring for patients with COVID-19?

Is there a relationship between the levels of professional commitment and burnout of nurses caring for patients with COVID-19?

MATERIAL and METHODS

Study Design

The study was designed in descriptive type. While reporting this article, the "Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE) checklist, which shows the sections that should be in the article while writing research articles on cross-sectional studies, was used.

Study Sample

The universe of this research consists of 216 nurses working in the COVID-19 intensive care units and COVID-19 clinics of a training and research hospital in Ankara. It was aimed at reaching the whole universe. Therefore, the sampling method was not used. Eleven nurses who didn't put their signature on the informed consent form and filled the forms incompletely were excluded from the research. Therefore, the sample size of the study is 205 nurses.

Data Collection Tools

"Descriptive Characteristics Form", "Burnout Scale (BS)", "Commitment to the Profession in Nursing Scale (NPCS)" were used to collect the data. The data collection phase of the research was carried out between April and June 2021.

Descriptive Characteristics Form: It was developed by the researchers using the literature[27,28]. The form consists of 15 questions to determine the following characteristics: age, gender, education, marital status, number of children nurses have, years of employment as a nurse, unit of work, position, working time in COVID-19 units, the average number of patients he/she gives care per day, shifts worked, nurses themselves, family members during the pandemic process, whether they have had a COVID-19 infection or not, the death of family members due to COVID-19 during this period.

Burnout Scale (BS): The Turkish adaptation, validity, and reliability studies of the BS developed by Pines and Aronson (1988) to be used on non-occupational groups as well as all occupational groups were carried out by Çapri (2006)[29]. The burnout scale is a seven-point Likert-type data collection tool. It was prepared as a self-report based on the statements of the interviewers and consisting of twenty-one (21) items to evaluate individuals' physical, emotional, and mental burnout levels. Items 3-6-19 and 20 are reverse-scored on the scale. As a result of scoring the scale items, a single total score is obtained from the BS[29].

The Nursing Professional Commitment Scale (NPCS): A data collection tool measuring nurses' professional commitment level was developed by Lu, Chang, and Chiou. The Turkish validity and reliability study of the scale was performed by Çetinkaya et al. (2015)[30]. The scale is of a four Likert-type. The scale consists of 26 items and three sub-dimensions. These sub-dimensions are belief in goals and values, willingness to make an effort, and maintaining as professional membership. Nine items in the scale contain reverse expressions and are scored inversely (14, 15, 16, 17, 18, 19, 20, 21, 25). The highest 104 and the lowest 26 points can be obtained from the entire scale. The increase in the scores obtained from the total and sub-dimensions of the scale indicates that the individuals' level of commitment to the profession is high[30].

Data Collection

During the data collection process, nurses were informed about the study by the researchers and invited to participate. After the information was given, the nurses who agreed to participate in the study were asked to sign the informed consent form, and the volunteer nurses were included in the study. Data collection tools were given to each nurse to fill in their work environment, and completely filled data collection forms were received.

Data Analysis

IBM SPSS 27.0 package program was used to analyze the obtained data. While evaluating the data, number, percentage, mean, and standard deviation were used for descriptive statistics. The homogeneity of the set was assessed with the "Kolmogorov-Smirnov" test, and it was determined that the sample did not show a normal distribution. For this reason, non-parametric tests were used. "Mann Whitney U test" was used in paired groups, and "Kruskal Wallis Analysis of Variance" was used in groups of three or more to compare burnout degrees and NPCS score averages according to sociodemographic and occupational characteristics. "Spearman Correlation Analysis" was used to examine the relationship between nurses' BS scores and NPCS scores.

Ethical Consideration

Ethics committee approval was obtained from Gazi University Ethics Commission (Date: 16.02.2021, Meeting No: 03, Research Code No: 2021-312) to evaluate the ethical compliance of the study, and institutional permission was obtained from Ankara Provincial Health Directorate for the hospital where the study will be conducted. In addition, the scientific research permission deemed necessary by the Ministry of Health of the Republic of Turkey for COVID-19 research was obtained from the Ministry of Health General Directorate of Health Services Scientific Research Studies Platform (Research Code No:2021-01-27T20_24_14).

Limitations

The research is limited to the training and research hospital where the application was made. The difficulties of the research are that the nurses resigned, were on leave and changed their institutions at the time of the survey. Also, delaying surveys due to workload is another challenge. The data in the research reflect the results based on the

personal statements of the individuals. Studying in a larger sample group is essential for the generalizability of the results.

RESULTS

70.2% of the nurses are 31 years and older, 89.3% are women, 72.2% are married, 69.7% have children, 58.8% have two children, and 88% are undergraduates. Of the nurses, 65.4% have been nurses for 11 years or more, 42.9% are in the COVID-19 intensive care units, %91.7 are in the clinical nurse position, and 89.8% are working in COVID-19 units for more than six months. For some time, 65.9% have worked in mixed (day and night) shifts in COVID-19 units. It was stated that 50.7% of the nurses care for an average of 12 or more patients per day, and 51.7% have not had a COVID-19 infection during the pandemic. It was stated that 67.8% of the nurses did not have family members with COVID-19 infection during the pandemic process, and family members of 30.3% died during the epidemic due to COVID-19 (Table 1).

Table 1. Socio-Demographic and Occupational Characteristics of Nurses during the COVID-19 Pandemic

Characteristics	n	%
Age Groups		
18-30 years	61	29.8
31 years and older	144	70.2
Gender		
Female	183	89.3
Male	22	10.7
Marital Status		
Married	49	72.7
Single[a]	56	27.3
Status of Having Children		
Yes	143	69.7
No	62	30.3
Number of Children (n=143)		
1	43	30.0
2	77	53.8
Three and above	23	16.0
Educational Status		
High school	14	6.8
University	181	88.3
Graduate	10	4.9
Working as a Nurse (Years)		
1-10 years	71	34.6
11 years and above	134	65.4
Unit of Work		
COVID-19 services and clinics	67	32.7
COVID-19 intensive care units	88	42.9
Emergency room	50	24.4
Working Position		
Head nurse	17	8.3
Clinical nurse	188	91.7
Working Time in COVID-19 Units		
1-6 months	21	10.2
Over six months	184	89.8
Average Number of Patients Given Daily Care		
1-11 patients	101	49.3
12 patients or more	104	50.7
Shifts Worked		
Daytime	33	16.1
Night	37	18.0
Mixed (Night-Day)	135	65.9
COVID-19 Infection Status		
Yes	99	48.3
No	106	51.7
Infection of Family Members with COVID-19		
Yes	66	32.2
No	139	67.8
Mortality of Family Members Due to COVID-19 Infection (n=66)		
Yes	20	30.3
No	46	69.6

[a]13 nurses were divorced.

It was determined that 36.6% of the nurses were in a state of burnout at the crisis level, 31.2% in a situation requiring immediate help, 22% in general burnout, and only 1% did not experience burnout (Table 2).

Table 2. Nurses' Burnout Scale Mean Total Score and Distribution According to the Degree of Burnout

Burnout Degree	n	%
No Burnout	2	1.0
Distress Signal for Burnout	19	9.3
Burnout Status	45	22.0
Crisis Situation	75	36.6
Situation Requiring Immediate Assistance	64	31.2
Burnout Scale Total Score	**X̄±SS=4.48±1.07**	

According to the variables of gender, age, marital status, education, status of having children, number of children, having COVID-19 infection, presence of COVID-19 infection and related death in any family member, working year as a nurse, the unit worked, the position worked, the duration of work in the COVID-19 units, the number of shifts worked and the average number of patients cared for per day, no significant difference was determined between the BS average total score (p>0.05) (Table 3, Table 4).

The total mean score of the nurses from NPCS was 68.73±13.14. When the NPCS sub-dimensions were examined, the mean score of nurses' willingness to make an effort was found to be 30.57±7.83, the mean score of maintaining professional membership was 23.34±4.85, and the mean score of belief in goals and values was 14.81±3.07 (Table 5).

According to the variables of gender, age, marital status, education, status of having children, number of children, having COVID-19 infection, presence of COVID-19 infection and related death in any family member, working year as a nurse, the unit worked, the position worked, the duration of work in the COVID-19 units, the number of shifts worked and the average number of patients cared for per day, no significant difference was found between the total mean score NPCS and sub-dimension score averages (p>0.05) (Table 6, Table 7).

The difference between the NPCS willingness to make an effort score averages according to the groups of the number of patients to whom the nurses provide daily care was statistically significant (x^2=6.21; p=0.010). Paired analysis of these data was carried out to determine the group that caused the statistical difference in question. The mean score of willingness to make an effort of the nurses caring for 1-11 patients on average per day was higher than the mean score of the nurses caring for 12 or more patients (Z=-2.493; p=0.013). A significant difference was found between the variable of the number of patients the nurses care for daily

and the total mean scores of the nurses' NPCS (x^2=5.02; p=0.025). Paired data analysis was performed to find which group caused this statistical difference. The NPCS total score averages of the nurses who care for 1-11 patients daily were found to be higher than the total score averages of the nurses who care for 12 or more patients (Z=-2,240; p=0.025) (Table 7).

Table 3. Distribution of Burnout Scale Mean Scores According to Some Descriptive Characteristics of Nurses

Characteristics	Burnout Scale Total Score			
Age †	**n**	**x̄±SS**	**X² / Z**	**p**
18-30 years	61	3.68±1.02	-1.131	0.082
31 years and older	144	3.95±0.96		
Gender †				
Female	183	3.87±0.97	-0.578	0.867
Male	22	3.86±1.12		
Educational Status ‡				
High school	14	3.64±0.92	3.36	0.186
University	181	3.87±0.98		
Graduate	10	4.30±1.02		
Marital Status †				
Married	149	3.91±0.97	-0.983	0.444
Single[a]	56	3.78±1.02		
Status of Having Children †				
Yes	143	3.93±0.97	-1.438	0.267
No	62	3.75±1.01		
Number of Children ‡ (n=143)				
1	43	3.83±0.94	5.53	0.321
2	77	4.02±0.99		
Three and above	23	3.78±0.95		
COVID-19 Infection Status †				
Yes	99	4.00±0.93	-1.444	0.099
No	106	3.76±1.02		
Infection of Family Members with COVID-19 †				
Yes	66	4.03±0.97	-1.869	1.116
No	139	3.80±0.99		
Mortality of Family Members Due to COVID-19 Infection (n=66)†				
Yes	20	4.20±0.76	-1.923	1.162
No	185	3.84±1.00		

† Mann Whitney U
‡ Kruskal Wallis
[a]13 nurses were divorced.

According to the Spearman Correlation Analysis test, a moderately significant and negative correlation was found between the total score of the NPCS sub-dimension, willingness to make an effort, and the total score of BS (r=-0.33; p=0.000). Accordingly, as the nurses' scores on BS increase, their willingness to make an effort decreases (Table 8). A negative and moderately significant correlation was determined between the mean score of the nurses from the sub-dimension of NPCS, the sub-dimension of maintaining professional membership, and the total mean score they got from the BS (r=-0.41; p=0.000). In this case, as the score obtained from BS increases, the score for maintaining professional membership decreases (Table 8). A negative and significant relationship was found between the nurses' scores from the dimension of belief in goals and values and the scores they got from the BS (r=-0.31; p=0.000). This shows that with the increase in the score obtained from the BS, the score obtained from the belief in goals and values dimension decreases (Table 8). A moderately significant and negative correlation was found between the total score of the BS and the total score of the NPCS (r=-0.40; p=0.000) (Table 8).

Table 4. Distribution of Burnout Scale Mean Scores According to Some Occupational Characteristics of Nurses

Characteristics	Burnout Scale Total Score			
	n	**x̄±SS**	**X²/ Z**	**p**
Working as a Nurse (Years) †				
1-10 years	71	3.77±1.00	-1.456	0.280
11 years and above	134	3.93±0.98		
Unit of Work ‡				
COVID-19 services and clinics	67	3.83±1.08	0.74	0.689
COVID-19 intensive care units	88	3.84±0.96		
Emergency room	50	4.00±0.90		
Working Position†				
Head nurse	17	3.82±0.72	-0.781	0.689
Clinical nurse	188	3.88±1.01		
Working Time in COVID-19 Units†				
1-6 months	21	3.88±1.31	-1.936	0.547
Over 6 months	184	4.55±1.02		
Average Number of Patients Given Daily Care †				
1-11 patients	101	3.82±0.97	-1.162	0.344
12 patients or more	104	3.93±1.00		
Shifts Worked‡				
Day time	33	3.87±1.02	1.36	0.536
Night	37	3.67±1.10		
Mixed (Night	135	3.93±0.94		

†Mann Whitney U
‡ Kruskal Wallis

Table 5. Sub-Dimensions and Total Scores of the Nursing Professional Commitment Scale

Sub-Dimensions	Min	Max	X±SS
Willingness to make an effort	13	52	30.57±7.83
Maintaining as professional membership	10	32	23.34±4.85
Belief in goals and values	6	20	14.81±3.07
Total scale score	33	104	68.73±13.14

Table 6. Distribution of the Total Score and Sub-Dimension Score Averages of the Nursing Professional Commitment Scale According to Some Descriptive Characteristics of Nurses

		Willingness to make an effort			Maintaining as professional membership			Belief in goals and values			NPCS Total Score		
Age†	**n**	**X̄±SS**	**X^2/Z**	**p**	**X̄±SS**	**X^2/Z**	**p**	**X̄±SS**	**X^2/Z**	**p**	**X̄±SS**	**X^2/Z**	**p**
18-30 years	32	31.77±7.56	-1.376	0.169	23.70±4.95	-0.798	0.425	15.01±3.03	-0.476	0.634	70.49±12.48	-1.018	0.309
31 years and older	29	30.06±7.91			23.18±4.82			14.72±3.10			67.98±13.38		
Gender†													
Female	183	30.79±7.86	-0.701	0.484	23.46±4.92	-1.069	0.285	14.95±2.94	-1.334	0.182	69.12±13.20	-1.195	0.232
Male	22	29.50±7.63			22.31±4.14			13.63±3.86			65.45±12.45		
Educational Status‡													
High school	14	31.00±6.10	2.14	0.342	22.92±3.68	0.41	0.812	15.28±2.58	0.34	0.842	69.21±9.91	0.68	0.709
University	181	30.35±7.90			23.41±4.77			14.76±3.14			68.54±13.14		
Graduate	10	33.90±8.59			22.50±7.53			15.10±2.68			71.50±17.53		
Marital Status †													
Married	149	30.55±8.01	-0.061	0.951	23.02±5.06	-1.284	0.199	14.74±3.16	-0.336	0.714	68.32±13.80	-0.546	0.585
Single[a]	56	30.64±7.41			24.17±4.19			15.00±2.83			69.82±11.25		
Status of Having Children †													
Yes	143	30.25±7.92	-0.816	0.415	23.23±4.87	-0.407	0.684	14.74±3.12	-0.405	0.685	68.23±13.48	-0.595	0.552
No	62	31.32±7.63			23.59±4.84			14.96±2.98			69.88±12.35		
Number of Children ‡ (n=143)													
1	43	30.88±7.14	1.54	0.672	24.16±4.17	3.16	0.366	15.20±2.66	0.89	0.827	70.25±11.83	1.56	0.666
2	77	30.31±8.18			22.70±4.90			14.61±3.26			67.62±14.05		
Three and above	23	28.86±8.60			23.26±5.84			14.34±3.44			66.47±14.51		
COVID-19 Infection Status †													
Yes	99	30.97±7.08	-0.789	0.430	23.52±4.65	-0.580	0.562	15.08±3.11	-1.459	0.145	69.58±12.19	-1.320	0.186
No	106	30.19±8.48			23.16±5.05			14.56±3.03			67.93±13.97		
Infection of Family Members with COVID-19 †													
Yes	66	31.03±7.39	-0.540	0.589	23.27±4.55	-0.260	0.795	14.92±3.12	-0.275	0.783	69.22±12.70	-0.504	0.614
No	139	30.35±8.05			23.37±5.00			14.76±3.06			68.49±13.37		
Mortality of Family Members Due to COVID-19 Infection (n=66)†													
Yes	20	30.50±9.01	-0.270	0.787	23.25±4.85	-0.030	0.976	14.30±2.93	-0.909	0.363	68.05±14.86	-0.093	0.926
No	185	30.58±7.72			23.35±4.86			14.87±3.09			68.80±12.98		

†Mann Whitney U
‡ Kruskal Wallis
[a]13 nurses were divorced.

Table 7. Distribution of the Total Score and Sub-Dimension Score Averages of the Nursing Professional Commitment Scale According to Some Occupational Characteristics of Nurses

		Willingness to make an effort			Maintaining as professional membership			Belief in goals and values			NPCS Total Score		
	n	X̄±SS	X^2/Z	p	X̄±SS	X^2/Z	p	X̄±SS	X^2/Z	p	X̄±SS	X^2/Z	p
Working as a Nurse (Years) †													
1-10 years	71	31.57±7.57	-1.248	0.212	23.70±4.87	-0.848	0.396	14.98±2.94	-0.389	0.697	70.26±12.91	-0.993	0.321
11 years and above	134	30.04±7.94			23.14±4.85			14.72±3.14			67.91±13.52		
Unit of Work‡													
COVID-19 services and clinics	67	29.01±8.31	5.48	0.065	23.28±5.17	5.00	0.082	14.67±3.11	0.43	0.806	66.97±14.96	3.39	0.183
COVID-19 intensive care units	88	31.96±7.63			23.88±5.05			15.01±2.83			70.86±12.18		
Emergency room	50	31.96±7.63			22.46±3.90			14.66±3.46			67.34±11.80		
Working Position†													
Head nurse	17	30.82±6.73	-0.385	0.701	24.05±4.26	-0.691	0.489	15.52±2.32	-0.862	0.388	70.41±11.77	-0.929	0.353
Clinical nurse	188	30.55±7.94			23.27±4.91			14.75±3.13			68.57±13.27		
Working Time in COVID-19 Units†													
1-6 months	21	31.23±8.28	-0.365	0.715	23.76±4.88	-0.500	0.617	14.04±3.30	-1.267	0.205	69.04±12.10	-0.179	0.858
Over six months	184	30.50±7.80			23.29±4.86			14.90±3.04			68.69±13.28		
Average Number of Patients Given Daily Care †													
1-11 patients	101	31.78±7.92	-2.493	0.013	23.78±5.05	-1.576	1.115	15.12±2.87	-1.344	0.179	70.69±12.84	-2.240	0.025*
12 patients or more	104	29.40±7.60			22.91±4.63			14.50±3.24			66.82±1.20		
Shifts Worked‡													
Daytime	33	32.27±7.36	1.97	0.373	23.21±4.81	1.54	0.463	15.87±2.70	4.64	0.098	71.36±12.84	2.51	0.285
Night	37	29.64±7.49			22.40±5.40			14.35±3.11			66.40±13.19		
Mixed (Night-Day)	135	30.41±8.02			23.62±4.71			14.68±3.11			68.72±13.17		

†Mann Whitney U
‡Kruskal Wallis
*p ≤ .05.

Table 8. Correlation between the Total Mean Scores of the Nurses' Burnout Scale and the Sub-Dimension and Total Scores of the Scale of Professional Commitment

Correlation †	Burnout Scale Total Score		
The Nursing Professional Commitment Scale Sub-Dimensions and Total Average Scores	**n**	**r**	**p**
Willingness to make an effort	205	-0.33	**0.000***
Maintaining as professional membership	205	-0.41	**0.000***
Belief in goals and values	205	-0.31	**0.000***
NPCS Total Score	205	-0.40	**0.000***

†In cases where at least one did not show a normal distribution.
The Spearman correlation coefficient was used to analyze the relationships.
*p ≤ .05.

DISCUSSION

During the epidemic, nurses experience uncertainty, fear, and anxiety due to the difficulties brought by the pandemic process[14]. It is thought that this situation causes nurses' burnout and affects their professional commitment levels.

In our study, it was found that almost all of the nurses experienced burnout. When the burnout score averages were examined, it was found that approximately 1/3 of the nurses were at crisis level, nearly 1/3 of them were at a level that required urgent help, and more than 1/5 of them experienced burnout. In the literature, different results have been obtained in the studies carried out to find the burnout status of nurses during the epidemic. In parallel with our results, in the study of Şahin et al. (2020) with health professionals working in pandemic hospitals, it was found that healthcare professionals experience high levels of burnout[19]. Similarly, in the study of Bellanti et al. (2021), high levels of burnout were observed in nurses during the epidemic process[20]. As in the study of Başar (2020), in which he compiled studies on burnout syndrome, its causes, consequences, and preventive strategies in nurses before the pandemic, it was determined that the burnout levels of the members of the nursing profession group were above the average[18]. Unlike these results, Harry's (2021) study to determine the burnout predictors of nurses working on the front line during the epidemic found that nurses experienced moderate burnout[31]. In the study conducted by Türkmen and Çetin Aslan (2021), which aimed to measure the emotional exhaustion and perceived stress levels of health professionals during the epidemic, the burnout levels of health professionals were determined to be moderate[32]. Similarly, Murat et al. (2021) stated that the burnout levels of nurses were at an average level during the epidemic[33]. In our study, the fact that almost all of the nurses experienced burnout, even at different levels, may be due to the fact that the hospital where the study was performed to is a hospital that only cares for pandemic patients, and that almost all of the nurses working in this hospital have been providing care to patients diagnosed with COVID-19 since the beginning of the pandemic process. Our study was conducted at the end of the first year of the pandemic, and accordingly, it can be thought that nurses working in the same conditions for a long time may be among the reasons for this situation.

Our study determined that the NPCS total score average of the nurses caring for COVID-19 patients was above the middle level. When the scores of the nurses from the sub-dimensions of NPCS were examined, it was determined that the average was high in the subdimension of belief in goals and values, and it was low in the sub-dimensions of willingness to maintain professional membership and make an effort. In support of our work, in the study performed by Özkan Şat et al. (2021), during the epidemic, while it was reported that the NPCS scores of the nurses were above the medium level, it was determined that they got high scores in the dimension of belief in goals and objectives, and low scores in the dimensions of continuing professional membership and volunteering to make an effort[25]. In parallel with these results, Duran et al. (2021) found that the NPCS total score averages of the nurses who worked actively during the epidemic were above the middle level[26]. In this direction, the results of our research are compatible with the literature; although the burnout levels of the nurses who worked actively in the field during the epidemic were high, we can say that this situation did not affect their commitment to the profession.

Our study found a significant difference between the mean number of patients cared for by nurses and NPCS total score and willingness to make an effort sub-dimension. The total score of the professional commitment scale and the willingness to make an effort sub-dimension score average of the nurses caring for 1-11 patients per day were found to be higher than the mean scores of the nurses caring for 12 or more patients per day. In this respect, it can be said that the average number of patients cared for during the epidemic period has an effect on the commitment of nurses to their profession and their willingness to strive for their profession, and that with the decrease in the number of patients cared for, the commitment of nurses to their profession will increase. In the literature, no study measures the professional commitment of nurses actively working in pandemic clinic and intensive care units and deals with this variable. In this direction, we can say that our study contributes to the literature.

Our study determined a negative and moderately significant relationship between nurses' total BS score and NPCS total and sub-dimension mean scores. Therefore, NPCS total and sub-dimension scores decrease as the nurses' scores on BS increase. Chang et al. (2017) determined a negative correlation between emotional and normative professional commitment and burnout in nursing, but this is not related to continuous professional commitment[34]. It can be said that reducing the burnout levels of nurses who are actively involved in the field with the interventions to be planned in line with all these data will increase the commitment to the nursing profession and thus increase the effectiveness and quality of the care provided.

CONCLUSION

In the results, only 1% of nurses did not experience burnout; it has been determined that about 1/3 of those who experience burnout are at the crisis level, close to 1/3 of them are at the level that requires urgent help, and more

than 1/5 of them are at the level of burnout. The level of professional commitment of nurses is above the medium level. While the level of belief in the aims and goals of the nurses based on their profession is high, the scores of maintaining the nursing profession and making an effort related to the profession are low. In addition, as nurses' burnout status increases, their commitment to their profession decreases.

In accordance with the results of this study, the following recommendations are presented to reduce the burnout levels of nurses caring for COVID-19 patients and to increase their commitment to the profession:

- Managers should make plans to reduce the workload of nurses in working environments and plan rotations so that the workload is equal between COVID-19 units,
- Development of a roadmap based on research results for hospitals and nurse managers to maintain and increase nurses' professional commitment, including strategies that can be used for common problems experienced during crisis periods such as the COVID-19 pandemic,
- Protecting the psychological state and mental health of nurses, who play a critical role in the pandemic, is very important for the functioning of the health system. Therefore, the establishment of psychological support units where nurses can directly express their fears and anxieties,
- Facilitating access to established units,
- Training nurses on stress coping techniques,
- Providing psychological counseling and guidance services to the children of nurses.

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REFERENCES

1. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A novel coronavirus from patients with pneumonia in China, 2019. NEJM. 2020;382(8):723-27.
2. World Health Organization. Coronavirus Disease 2019 (COVID-19): Situation Report, 51 Geneva: WHO Publications [Internet]. 2020 [Date of Access: 23 February 2021]. Access Address: https://covid19.who.int/
3. Republic of Turkey Ministry of Health. Current situation in Turkey [Internet] 2020. [Date of Access 31 August 2021]. Access address: https://covid19.saglik.gov.tr/
4. Rajeshwari S. Nurses: A force for change - improving health systems' resilience. NJI. 2016;107(6):263-4.
5. Burns H, Hamer B, Bissell A. Covid-19: Implications for the Australian healthcare workforce [Internet]. 2020 [Date of Access: 23 February 2021]. Access address: https://www.pwc.com.au/important-problems/business-economic-recovery-coronavirus-covid-19/australian-healthcare-workforce.html
6. Kalanlar B, Kubilay G. An important concept in protecting public health in disasters: Disaster nursing. FNJN. 2015;23(1):57-65.
7. Şenol Çelik S, Atlı Özbaş A, Koç G, Çelik B, Karahan A, Bulut H, et al. COVID 19 pandemic process: Turkish Nurses Association. J Educ Res Nurs. 2020;17(3):279-83.
8. Pedrazza M, Berlanda S, Trifiletti E, Minuzzo S. Variables of individual difference and the experience of touch in nursing. WJNR. 2018;40(11):1614-37.
9. Hachisu T, Suzuki K. Tactile apparent motion through human-human physical touch. Prattichizzo D, Shinoda H, Tan HZ, Ruffaldi E, Frisoli A. editors. In Haptics: Science, Technology, and Applications. Italy: Springer, 2018.
10. Smith GD, Ng F, Li WHC. COVID-19: Emerging compassion, courage and resilience in the face of misinformation and adversity. JCN. 2020;29(9-10):1425-8.
11. Jackson D, Bradbury-Jones C, Baptiste D, Gelling L, Morin K, Neville S, et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. JCN. 2020;29(13-14):2041-3.
12. Choi KR, Jeffers KS, Logsdon MC. Nursing and the novel coronavirus: Risks and responsibilities in a global outbreak. JAN. 2020;76(7):1486-7.
13. Billings J, Kember T, Greene T, Grey N, El-Leithy S, Lee D, et al. Guidance for planners of the psychological response to stress experienced by hospital staff

associated with COVID: Early Interventions [Internet]. 2020 [Date of Access 23 February 2021]. Access address: https://www.aomrc.org.uk/wp-content/uploads/2020/03/Guidance-for-planners-of-the-psychological-response-to-stress-experienced-by-HCWs-COVID-trauma-response-working-group.pdf
14. Çevik Aktura S, Özden G. Psychological effects of the epidemic: Covid-19 nurses. IJSSS. 2020;13(73):1146-51.
15. Maslach C. Burnout: The cost of caring. New Jersey: Prentice Hall, 1982.
16. Erol A., Akarca F, Değerli V, Sert E, Delibaş H, Gülpek D, et al. Burnout and job satisfaction in emergency service workers. Turkish Journal of Clinical Psychiatry. 2012;15:103-10.
17. Kansoun Z, Boyer L, Hodgkinson M, Villes V, Lançon C, Fond G. Burnout in French physicians: A systematic review and meta-analysis. JAD. 2019;246(1):132-47.
18. Başar U. Burnout syndrome in nurses: causes, consequences, and preventive strategies. JHNM. 2020;7(2):1-15.
19. Sahin T, Aslaner H, Eker OO, Gokcek MB, Dogan M. Effect of COVID-19 pandemic on anxiety and burnout levels in emergency healthcare workers: a questionnaire study. IJMSCI. 2020;1(1):1-22.
20. Bellanti F, Lo Buglio A, Capuano E, Dobrakowski M, Kasperczyk A, Kasperczyk S, et al. Factors Related to nurses' burnout during the first wave of coronavirus disease-19 in a University Hospital in Italy. Int. J. Environ. Res. Public Health. 2020;18(10):5051.
21. Yumru M. COVID-19 and burnout in healthcare workers. Turkish Journal of Clinical Psychiatry. 2020;23(1):5-6.
22. Jafaragaee F, Parvizy S, Mehrdad, N. Concept analysis of professional commitment in Iranian nurses. IJNMR. 2012;17(1):472-9.
23. Waugaman WR, Lohrer DJ. From nurse to nurse anesthetist: The influence of age and gender on professional socialization and career commitment of advanced practice nurses. J Prof Nurs. 2000;16(1):47-56.
24. Vandenberg RJ, Scarpello VA. longitudinal assessment of the determinant relationship between employee commitments to the occupation and the organization. J Organ Behav. 1994;15(6):535–47.
25. Özkan Sat S, Akbas P, Yaman Sözbir Ş. Nurses' exposure to violence and their professional commitment during the COVID-19 pandemic. JCN. 2021;30(1):2036-47.
26. Duran S, Celik I, Ertugrul B, Ok S, Albayrak S. Factors affecting nurses' professional commitment during the COVID-19 pandemic: A cross-sectional study. J Nurs Manag. 2021;1(1):1-10.
27. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Network Open. 2020;3(3):e203976.
28. Kang L, Ma S, Chen M, Yang J, Wang Y, Li R, et al. Impact on mental health and perceptions of psychological care among medical and nursing staff in Wuhan during the 2019 novel coronavirus disease outbreak: A cross-sectional study. Brain Behav. Immun. 2020;87(1):11-7.
29. Capri B. Turkish adaptation of burnout scale: Validity and reliability study. Journal of Mersin University Faculty of Education. 2006;2(1):62-77.
30. Çetinkaya A, Özmen D, Temel AB. The validity and reliability study of the Nursing Professional Engagement Scale. Dokuz Eylul University Faculty of Nursing Electronic Journal. 2015;8(2):54-60.
31. Harry S. Predictors of Burnout for Frontline Nurses in the COVID-19 Pandemic: Well-Being, Satisfaction With Life, Social Support, Fear, Work Setting Factors, Psychological Impacts, and Self-Efficacy for Nursing Tasks [Doctoral Dissertation]. Columbia University, 2021.
32. Türkmen İ, Çetin Aslan E. Investigation of the perceived stress and emotional exhaustion levels of health workers during the Covid-19 pandemic process. [Notification]. International Black Sea Coastline Countries Scientific Research Symposium-IV; 28-29 April 2021; Giresun, Turkey.
33. Murat M, Köse S, Savaşer S. Determination of stress, depression and burnout levels of front-line nurses during the COVID-19 pandemic. Int J Ment Health Nurs. 2021;30(2):533-43.
34. Chang HY, Shyu YIL, Wong MK, Chu TL, Lo YY, Teng CI. How does burnout impact the three components of nursing professional commitment? Scand J Caring Sci. 2017;31(4):1003-11.