Professional Quality of Life of Nurses Providing Care for Patients with COVID-19

COVID-19 Hastalarına Bakım Veren Hemşirelerin Profesyonel Yaşam Kalitesi

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ÖZ

Amaç: Bu çalışma Covid-19 hastalarına bakım veren hemşirelerin mesleki yaşam kalitesi ve bakım deneyimlerinin belirlenmesi amacı ile yapıldı.

Materyal ve Metot: Tanımlayıcı ve kesitsel tipte olan bu araştırmanın örneklemini, salgının yayılımına göre ilk sırada yer alan İstanbul'da (Türkiye) çalışan 181 hemşire oluşturdu.

Bulgular: 1-4 yıl arası çalışan, haftada 3 ve üzeri nöbet tutan, covid 19 servisinde çalışan, pandemi süresince 100 ve üzeri hastaya bakım veren hemşirelerin mesleki tatmin puanları daha yüksektir. Lisans mezunlarının, 60 saat ve üstü çalışanların ise, merhamet yorgunluk puanlarının yüksek olduğu saptandı. Çocuk sahibi olmayanların, lise mezunlarının, haftada 60 saat ve üzeri çalışanların, haftada 3 ve üzeri nöbet tutanların, acil serviste ve 100 ve üzeri hasta bakanların, mesleki yaşam kalitesi ölçeği puan ortalamaları yüksek çıkmıştır.

Sonuç: Covid-19 pandemi sürecinde hemşirelerin manevi yorgunluk ve tükenmişlik düzeylerinin alarm verdiği, sürecin devam etmesi durumunda artarak devam edebileceği ve ruh sağlıklarının bozulacağı öngörülmektedir. Hemşire yöneticilerin ve liderlerin iş yükü ve çalışma koşullarında iyileştirme, hemşireler ve klinikler arasında rotasyon, stresle baş etme yöntemlerinin öğretilmesi mesleki yaşam kalitesini artırmada yararlı olacağı düşünülmektedir.

Anahtar Kelimeler: Bakım, Covid-19, hemşirelik, yaşam kalitesi

ABSTRACT

Objective: This study was conducted to determine the professional quality of life and care experiences of nurses who provide care for patients with COVID-19.

Materials and Methods: The sample of this descriptive and cross-sectional study consisted of 181 nurses working in İstanbul (Turkey) which takes the first place according to the spread of the epidemic.

Results: The nurses working for 1-4 years, 3 or more shifts per week, working in COVID-19 services, and providing care for 100 or more patients had higher compassion satisfaction scores.

The compassion fatigue scores of those who were university graduates and worked 60 hours or more per week were found to be high. Those without children, high school graduates, those working 60 hours or more per week, those having 3 or more shifts per week, and those providing care for 100 or more patients in emergency services had higher mean scores on the professional quality of life.

Conclusion: During the COVID-19 pandemic process, it is predicted that the level of compassion fatigue and burnout of nurses alarms. It is thought that reducing the workload and improving working conditions of nurse managers and leaders, the rotation of nurses between clinics, using methods of overcoming the stress.

Keywords: Care, Covid-19, nursing, quality of life

INTRODUCTION

The COVID-19 pandemic first broke out in Wuhan, China in December 2019, and spread to the whole world.[1] In Turkey, The first case of COVID-19 in Turkey was diagnosed on March 10 2020.[2] Healthcare professionals are the backbone of every country. Their health and safety are important in maintaining quality patient care and controlling the outbreak.[3-6] Nurses, who are at the forefront of the war against the COVID-19 pandemic, carry the risk of exposure to the pathogen in the working environment and experience physical and psychological fatigue in a long and heavy workload while trying to heal their patients.[3]

The International Council of Nurses (ICN) determined that the number of nurses lost in 44 countries due to the COVID-19 pandemic is 1500, this number is the same as the number of nurses lost in the first world war (COVID nurse death toll now as high as the number of nurses who died during World War One.[4] In Turkey, the number of health workers who lost their lives since the beginning of the pandemic has reached 300 and 6% of them were nurses.[5] In the COVID-19 pandemic, the professional quality of life (PROQOL) of healthcare workers was adversely affected due to not being able to see their children due to the fear of contagious agent contamination, witnessing the death of colleagues or patients, and having to provide emotional support to patients and their relatives. [6]

While psychological disorders, low compassion satisfaction, emotional fatigue and burnout affect their PROQOL negatively in healthcare workers, the satisfaction of nurses with high PROQOL creates positive effects on their patients who need morale and motivation in their recovery. [7] Based on this information, PROQOL gains more importance in those working in critical clinical areas.[8,9]

The studies on PROQOLs and care experiences of nurses who provide care for patients with COVID-19 are limited. The aim of this study was planned and carried out in order to contribute to the improvement of working conditions and the development of psychological and social support systems by determining the PROQOL and care experiences of nurses who care for COVID-19 patients.

MATERIALS AND METHODS

Ethical statement: The study was approved by the Istinye University Ethical Committee (Date: 06/06/2020, decision no: 07-06). And institutional permissions (Date: 02.06.2020) were obtained. After obtaining verbal consent from the nurses who volunteered to participate in the study, they were included in the study.

Design, participants, and setting: This study was planned as a descriptive and cross-sectional study; its universe consisted of 253 nurses working in intensive care units, emergency services, and clinics in five hospitals affiliated with private chain hospitals in Istanbul. The sample consisted of 181 nurses, who volunteered to participate in the study and whose consent was obtained, without any sample size calculation. The participation rate in the study was 72%.

Instruments: The data were collected with a 22-item questionnaire containing sociodemographic and care characteristics and the PROQOL. The questionnaire was created according to the relevant literature.[10,11] The form including sociodemographic and care characteristics, such as age, gender, marital status, number of children, working years and working hours, training for the COVID-19 pandemic, the number of patients, the clinics, the status of being infected with COVID-19, the mode of transmission, the difficulties in the treatment and care of COVID-19, and health conditions.

The PROQOL Scale was developed by Stamm[10] adapted into Turkish by Yeşil et al.[11] It consists of 30 items on the sub-dimensions of compassion satisfaction, burnout, and compassion fatigue. A high score on this scale indicates a high level of quality of life. In this study, the Cronbach's alpha coefficient of the whole PROQOL scale dimension was 0.89 while it was 0.88, 0.80, and 0.92 for the sub-dimensions of compassion satisfaction, burnout, and compassion fatigue, respectively.

Data collection: The data were collected between 08 June and 15 July 2020, when the COVID-19 pandemic was taken under control in 01 June 2020 and travel permits were given, where the COVID-19 pandemic was most severe.

Statistical analysis: The statistical analysis of the data was performed using SPSS (Statistical Package For The Social Sciences) 25.0 software. Descriptive statistics were used for data analysis, the Kruskal-Wallis test and Spearman's correlation test and Student's t-test were used in the analysis of the parameters with a normal distribution. 95% confidence interval and $p < 0.05$ error level were taken into account in the analysis of the data.

RESULTS

The sociodemographic and personal characteristics of the nurses are given in Table 1. According to Table 1, the mean age of the nurses was 24.29 ± 4.41 years; the majority (74.0%) of the nurses were between the ages of 20-24. The vast majority of them were women (70.2%), single (84.0%), with no children (81.2%); nearly half (51.3%) of them had undergraduate degrees.

Table 1. Personal and sociodemographic characteristics of the nurses (n=181).

Personal and sociodemographic characteristics		n	%
Age group	20-24	134	74.0
	25-30	32	17.7
Mean ± SD 24.29 ±4.41	31-36	7	3.9
	37-42	6	3.3
	42 or ↑	2	1.1
Gender	Female	127	70.2
	Male	54	29.8
Marital status	Married	29	16.0
	Single	152	84.0
Having children	Yes	34	18.8
	No	147	81.2
Educational status	High school	83	45.9
	Associate	5	2.8
	Undergraduate	93	51.3
Years in the profession	1-4	150	82.9
	5 -9	21	11.6
	10 -14	10	5.5
Weekly working hours	40-50	89	49.2
	50-60	52	28.7
	60 or ↑	40	22.1
Number of night shifts	1-2 a week	47	26.0
	3 or more a week	134	74.0

The characteristics of the nurses regarding the care for the patient with COVID-19 are given in Table 2. About half of the nurses (48.6%) worked in intensive care units before the COVID-19 pandemic, and about half (51.4%) of them were providing care and treatment for the patients with COVID-19 COVID-19 services. Approximately one-third of the nurses (34.3%) were employed in clinics giving care and treatment to patients with COVID-19 for 61-90 days. Approximately one-third of the nurses (31.5%) provided care for 100 or more patients in emergency services during the COVID-19 pandemic, most (60.2%) of them stayed at their homes during the pandemic. 37% of the nurses were diagnosed with COVID-19; one third (32.7%) of the nurses were caught the disease by contact with patients with COVID-19. 44.0% of the nurses who caught COVID-19 stated that the most difficult situation they experienced in treatment and care was remaining separate from their families (Table 2).

Table 2. Characteristics of the nurses regarding the care of patients with COVID-19 (n=181).

Characteristics regarding the care		n	%
The status of receiving training for the care of COVID-19 patients	Yes	98	53.0
	No	42	22.7
	Partially	41	24.3
The period between the training for the care of COVID-19 patients and the beginning of the care	Immediately	110	60.8
	After 1 week	36	19.9
	After 2 weeks	14	7.7
	After 3 weeks	13	7.2
	After 4 weeks	8	4.4
The clinics in which the nurse worked before the pandemic	Operating theatre	19	10.5
	Intensive care unit	88	48.6
	Polyclinic	5	2.8
	Internal medicine	8	4.4
	Emergency service	29	16.0
	Surgical service	32	17.7
The clinics in which the patients with COVID-19 received care and treatment	Intensive care unit	60	33.1
	COVID-19 service	93	51.4
	Emergency Service	28	15.5

Table 2. Continue.

The duration of working in the clinics in which the patients with COVID-19 received care and treatment (days)	1-30	20	11.1
	31-60	60	33.1
	61-90	62	34,3
	91-120	37	20.5
	121 or ↑	2	1.1
Mean duration in which the care was provided	78.21 ±28.12 (Min 14; Max 130)		
Total number of patients who received care from the nurse	Intensive care unit 20-29	38	21.0
	Intensive care unit 30-50	23	12.7
	Service 40-59	21	11.6
	Service 60-80	27	14.9
	Emergency service 60-79	6	3.3
	Emergency service 80-99	9	5.0
	Emergency service 100 or ↑	57	31.5
The place of residence during the pandemic	Home	109	60.2
	Hotel	34	18.8
	Dormitory	26	14.4
	Hospital	12	6.6
COVID-19 test result	Positive	67	37.0
	Negative	114	63.0
Cause of catching COVID-19	Inadequate equipment in the hospital	12	18.1
	Lack of protective measures	15	22.3
	Lack of personal hygiene	12	18.1
	Contact with a patient with COVID-19 unexpectedly	22	32.7
	Other (air conditioning)	6	8.9
The most difficult situation experienced during the care and treatment * n=67	Negative progress of the treatment	14	20.4
	Remain separate from the family	28	44.0
	Severe symptoms	16	23.7
	Other	9	11.9
Evaluation of the actual health status n=181	Very good	59	33.0
	Good	88	48.0
	Moderate	31	17.3
	Poor	3	1.7
Duration of working in the clinics of the nurses with COVID-19 (days)	79.59±29.37		

*: More than one choice were chosen; Min: Minimum; Max: Maximum.

Table 3 shows the distribution of nurses' knowledge about introductory and clinical care practices and their mean scores on the whole PROQOL scale and its sub-dimensions. In the study, the nurses' mean score on the PROQOL Scale was 71.97±17.47 (25-114). There was a statistically significant difference between the age groups according to their scores on the sub-dimension of burnout (p=0.03). The mean score of the nurses in the 25-30 age group on the sub-dimension of burnout was significantly higher. The score of those who did not have children on the PROQOL was statistically significantly higher than those who had children (p=0.04). The high school graduate nurses' mean scores on the sub-dimension of compassion fatigue (p=0.00) and the whole PROQOL (p=0.04) were significantly higher than the nurses having bachelor's degrees or associate's degree. The scores compassion satisfaction sub-dimension score of the nurses with a working period of 1-4 years (p=0.01) were significantly higher than the nurses with other working periods. The mean compassion fatigue subscale (p=0.04) and the whole PROQOL (p=0.03) scores of the nurses with working hours of 60 or more were significantly higher. The mean compassion satisfaction (p = 0.01) and the whole PROQOL scores (p=0.004) of the nurses who had 3 or more shifts per week were significantly higher (Tablo 3).

Table 3. Distribution of the nurses' personal characteristics and clinical care practices and their mean scores on the whole PROQOL, and its sub-dimensions (n=181).

Characteristics		Compassion satisfaction Mean±SD	Burnout Mean ±SD	Compassion fatigue Mean±SD	Score on the whole PROQOL
Age Mean±SD:24.29±4. 41; Range:21-43	20-24	35.46±11.14	20.73±6.67	17.15±9.28	73.35±16.93
	25-30	29.43±10.89	22.75±7.43	17.31±10.85	69.50±19.86
	31-36	30.85±17.32	18.00±7.25	15.00±8.24	63.85±17.00
	37-42	37.00±10.31	17.33±1.50	14.16±10.77	68.50±17.16
	43 or above	37.50±09.19	12.50±7.77	8.5±3.53	58.50±2.12
	p	> 0.05*	**0.03***	> 0.05*	> 0.05*
Gender	Women	34.17±11.7	20.94±7.24	17.09 ±9.25	72.21 ±17.17
	Men	34.57±11.03	20.38± 5.79	16.46±10.21	71.42± 18.30
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
Marital status	Married	32.10±12.65	21.13±7.64	17.11±9.85	70.34±17.09
	Single	34.71±11.23	20.71±6.69	16.86±9.49	72.28±17.58
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
Having children	Yes	32.12±12.98	19.58±6.82	15.00±8.79	66.70±16.68
	No	34.76±11.08	21.05±6.83	17.34±9.66	73.19±17.47
	p	> 0.05†	> 0.05†	> 0.05†	**0.04†**
Educational status	High school	36.26 ±11.11	17.84 ±9.89	21.81± 6.89	74.21± 18.38
	Associate	34.40± 5.31	8.20 ±6.97	12.80± 4.54	55.40± 8.96
	Undergraduate	32.52 ±11.82	16.53± 9.12	20.09± 6.53	70.88± 16.49
	p	> 0.05*‡	> 0.05*‡	**0.00*‡**	**0.04*‡**
Years in the profession	1 - 4	34.58±11.21	20.72±6.79	17.08±9.70	72.39±17.30
	5 -9	33.80±12.39	22.23±8.04	17.57±9.41	73.61±20.20
	10 -14	33.66±11.62	17.77±3.49	13.00±6.83	64.44±9.61
	p	**0.01***	> 0.05*	> 0.05*	> 0.05*
Weekly working hours	40-50	33.88±11.13	19.98±6.32	15.67±8.66	69.55±16.10
	50-60	34.20±12.93	21.32±7.64	17.11±9.97	72.69±18.10
	60 or above	35.25±10.41	21.82±6.78	19.37±9.48	76.45±18.99
	p	> 0.05*	> 0.05*	**0.04***	**0.03***
Number of the night shifts	1-2 days a week	30.95±11.25	19.65±5.66	14.93±6.80	65.55±13.12
	3 or more days a week	35.59±11.38	21.06±7.08	17.40±10.17	74.06±18.35
	p	**0.01***	> 0.05*	> 0.05*	**0.004***

ANOVA: Analysis of Variance; SD: Standard Deviation; RoQOL: Professional Quality of Life Scale; *: One-way ANOVA test; ‡: Chi-squared test; †: Student t test..

The distribution of the nurses' mean score on the whole PROQOL and its sub-dimensions according to the characteristics of the nurses regarding the care for the patients with COVID-19 is given in Table 4. There was a significant difference between the scores of the nurses on the sub-dimensions of compassion satisfaction (p=0.01) and burnout (p=0.001) according to the status of receiving training for the care of patients with COVID-19. A statistically significant difference was found between compassion satisfaction and burnout scores according to the clinic in which care and treatment were given to the patients with COVID-19. The compassion satisfaction scores (p=0.03) of those working in COVID-19 services and burnout scores of those providing care for patients with COVID-19 in intensive care units (p=0.01) were significantly higher. A statistically significant difference was found between the scores on the sub-dimension of compassion satisfaction

(p=0.02) and the whole PROQOL according to the number of patients with COVID-19 who were cared for (p=0.04). The compassion satisfaction sub-dimension and the whole PROQOL scores of those working in the emergency services and those who provided care for 100 or more patients were higher than those who provided care for other patient groups. All the nurses who were providing care for patients with COVID-19 evaluate their current health status. Those who expressed their health status as moderate had statistically significantly higher scores on the sub-dimensions of burnout (p=0.00) and compassion fatigue (p=0.02) and the whole PROQOL (p=0.00). A statistically significant positive and weak correlation was found (p=0.04; r=0.14) between the duration of clinical working (days) and the scores on the sub-dimension of burnout of the nurses who caught COVID-19 (Table 4).

Table 4. Distribution of the nurses' scores on the PROQOL sub-dimensions according to the characteristics of the care of patients with COVID-19 (n=181).

Characteristics		Compassion satisfaction Mean±SD	Burnout Mean±SD	Compassion fatigue Mean±SD	Score on the Whole PROQOL Mean±SD
Status of receiving training fort he care of patients with COVID-19	Yes	33.97±10.06	20.56±6.52	16.85±9.08	71.39±17.89
	No	35.48±8.43	21.04±5.44	17.82±8.28	74.36±11.22
	Partially	31.89±10.36	22.46±6.75	15.82±7.83	70.17±17.99
	p	**0.01***	**0.001***	> 0.05*	> 0.05*
The clinics in which the patients with COVID-19 received care and treatment	Intensive care unit	31.16±12.03	22.28±6.88	18.41±9.93	71.86±18.45
	COVID-19 service	36.54±10.67	20.46±6.90	16.67±9.51	73.68±17.22
	Emergency service	33.19±11.64	18.69±6.13	14.07±8.56	65.96±15.77
	p	**0.03***	**0.01***	> 0.05*	> 0.05*
The status of catching COVID-19	Yes	34.00±11.34	20.58±6.21	17.62±8.33	72.20±16.65
	No	34.46±11.60	20.89±7.20	16.48±10.17	71.84±18.00
	p	> 0.05*	> 0.05*	> 0.05*	> 0.05*
Number of patients who received care from the nurse	Intensive Care Unit 20-29	35.18±12.54	18.71±7.25	17.23±10.64	71.13±18.58
	30-50	27.39±12.52	21.86±8.42	14.04±7.58	63.30±12.66
	Service 40-59	30.57±10.35	21.95±5.57	16.66±7.70	69.19±14.10
	60-80	36.22±9.62	21.51±6.36	17.77±10.55	75.38±17.77
	Emergency service 60-79	32.16±9.94	20.66±7.11	20.66±9.47	73.50±8.24
	80-99	33.66±13.51	21.00±4.74	16.33±8.06	71.00±20.68
	100 or more	37.26±10.24	20.91±6.76	17.21±9.94	75.51±19.85
	p	**0.02***	> 0.05*	> 0.05*	**0.04***
* Cause of catching COVID-19	Inadequacy of protective equipment in the hospital	30.71 ±7.93	19.07± 9.49	22.21± 7.26	74.00 ±15.52
	p	0.69†	0.19†	0.35†	0.18†
	Lack of protective measures	31.69 ±12.20	15.35± 7.42	19.96 ±6.45	69.93 ±12.51
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
	Lack of personal hygiene	30.55± 11.61	15.63± 7.81	19.96± 6.05	66.15 ±13.77
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
	Contact with a patient with COVID-19 unexpectedly	30.60± 10.87	15.24± 8.60	19.90± 5.72	65.76± 17.23
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
	Air conditioning	30.00 ±11.66	18.33± 8.01	25.83 ±7.35	74.16 ±20.64
	p	**> 0.05†**	**> 0.05†**	**> 0.05†**	**> 0.05†**
* The most difficult situation experienced during the care and treatment	Negative progress of the treatment	28.41 ± 11.66	16.42±7.33	21.57 ±5.93	66.00± 12.76
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
	Remaining separate from the family	29.84 ± 39.12	15.46 ± 8.87	21.38 ±6.54	66.69 ±16.89
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
	Severe symptoms	28.00 ±11.66	16.42 ± 7.33	21.57 ± 5.93	66.00 ± 12.76
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
	Working place problem	32.28 ± 12.60	19.57 ± 7.43	21.00 ±7.65	7.85 ± 10.88
	p	> 0.05†	> 0.05†	> 0.05†	> 0.05†
Actual health status	Very good	33.01 ± 12.3	13.81 ±8.73	19.50 ± 7.88	66.33 ± 14.82
	Good	33.53 ±11.20	16.81± 9.07	20.69 ±6.15	71.04 ±17.99
	Moderate	38.51±12.29	22.68 ± 9.44	23.34 ± 5.86	84.54 ±14.14
	Poor	33.28±14.31	13.19 ±6.44	19.61 ± 8.95	65.89 ± 12.91
	p	> 0.05*	**0.00***	**0.02***	**0.00***
Duration of working in the clinics of the nurses with COVID-19 (days)		p> 0.05 r=0.12	**p**=0.04 r=0.14**	p> 0.05 r=0.008	p> 0.05 r=0.10

ANOVA: Analysis of Variance; SD: Standard Deviation; PROQOL: Professional Quality of Life Scale; *: One-way ANOVA test; †: Student t test; r: correlation coefficient, **: Spearman's correlation test.

DISCUSSION AND CONCLUSION

In the study, the majority of the nurses were between the ages of 20-24, single, and university graduates; they had been working for 1-4 years; about half of them received training on the care of patients with COVID-19. The nurses mostly worked in intensive care units; their mean duration of providing care was 78.21 (14-130) days; one-third of them caught COVID-19 via contact with patients. The scores of the nurses on the whole PROQOL and its sub-dimensions nurses were average. In February-March 2020, when the COVID-19 pandemic first took to the stage, the scores on the whole PROQOL and its sub dimensions of compassion satisfaction and burnout were moderate in 1734 healthcare workers in China,[1] while their scores on the sub dimension of compassion fatigue was high. In March-April 2020, the scores on the sub dimensions of compassion fatigue and burnout were found to be high in Spain and Italy.[9,12] In studies evaluating the mental health of qualitative and quantitative healthcare workers (physicians and nurses) in the world and in Turkey after the COVID-19 pandemic, the majority of healthcare workers showed the symptoms of depression and experienced moderate or high levels of stress and anxiety.[5,12-18]

In our study, the nurses' scores on the whole PROQOL and its sub-dimensions were higher than the nurses in Europe and China. In the studies, it is stated that Turkish nurses have medium or high PROQOL score averages before the COVID-19 outbreak.[19,20] In this study, the burnout sub dimension and the whole PROQOL scores of the nurses in the 25-30 age group were significantly higher. When age increased, professional awareness and awareness of responsibilities increased. Ruiz-Fernández et al[12] reported that the variable of age affected the scores on the whole PROQOL and the sub dimension of compassion fatigue while Buselli et al.[9] reported that it did not affect. Alan and Yıldırım[19] and Pehlivan and Güner[20] found that young nurses between the ages of 20-35 experienced more compassion fatigue. In this context, although the mean age of the nurses in our study was lower than in other studies (24.29±4.41), it is probable that not only awareness of nurses in the 25-30 age group may have improved but also their burnout worsened.

In this study, the compassion satisfaction levels of the nurses with a working period of 1-4 years were significantly higher. Most of the nurses working during the pandemic process may not have burned out since they have newly started their profession and therefore their compassion satisfaction scores may have been high. The compassion fatigue and PROQOL total scores of the nurses who worked 60 hours or more were significantly higher. Ruiz-Fernández et al.[12] conducted a study with 506 he-althcare workers, determined high levels of compassion fatigue and burnout in the physicians while compassion satisfaction increased in the nurses due to heavy working hours. There were similar findings in the studies in Italy and China.[9,21] However, Alan and Yıldırım[19] and Başkale, Partlak Günüşen, and Serçekuş[22] found that heavy working hours did not affect the burnout or professional quality of life. The effects of working years and weekly working hours on the quality of professional life differ.

In the study, the score of those without children on the whole PROQOL score was determined to be significantly higher than those with children. Aksoy and Koçak[15] found that 71.9% of the nurses and midwives fear infecting their families. Cui et al.[23] also found that 79.6% of the emergency nurses fear infecting their families. The nurses in qualitative studies also expressed the fear of infecting their children and family members as the most challenging factor among their working conditions.[5,17] The nurses' neglect of their children's care due to the worsening working conditions during the epidemic period and their inability to see their children due to the fear of contagion, may have affected the burnout and quality of life of the nurses more deeply.

We found that high school graduate nurses had significantly higher mean scores on the whole PROQOL while their compassion fatigue level was lower. Sacco et al.[24] determined that 221 intensive care nurses with high education levels experienced more compassion fatigue. Some studies found that the education level did not affect the scores on the sub-dimension of compassion fatigue and the whole PROQOL scale.[24-28] In our study, high school graduate nurses may have a higher quality of life due to depersonalization.

In this study, the compassion satisfaction levels of those who received partial training for the care of patients with COVID-19 were low, and the burnout levels of those who received training were low. Alwani et al.[29] reported that 92.3% of nurses in Pakistan experienced moderate or severe anxiety despite the good knowledge level of nurses and good care practices for COVID-19 in this country. Pehlivan and Güner[20] found that there was a slight increase in compassion satisfaction levels as a result of the one-year training program for improving the PROQOL in oncology nurses. In our study, the burnout of those who received training in providing care for patients with COVID-19 was lower when the compassion satisfaction scores of those who did not receive training were higher.

In conclusion, it was determined that the moral fatigue, burnout, compassion satisfaction, and PROQOL of the nurses who caught or not caught COVID-19 were at a moderate level in the study. The burnout and compassion fatigue increased in

nurses between the ages of 25-30, having children, working for 1-4 years, having a bachelor's degree, and working 60 hours or more a week. Reducing the workload and improving the working conditions of institutions and nurse managers, planning for the care of children, providing training on self-awareness, healthy nutrition, and psychological resilience, breathing, meditation, hope, relaxation, imagination, and music support are beneficial for decreasing the levels of compassion fatigue and burnout and improving the professional quality of life in nurses. As a limitation of the study, this research was conducted in Istanbul province and cannot be generalized to other provinces and regions. Also, the results are based on cross-sectional data, therefore the conclusion of a causal relationship between variables cannot be derived. Despite the above limitations, this study found that nurses working in ICUs or Covid clinics increased levels of fatigue and burnout during the Covid-19 outbreak.

Ethics Committee Approval: The study was approved by the Istinye University Ethical Committee (Date: 06/06/2020, decision no: 07-06). And institutional permissions (Date: 02.06.2020) were obtained. In line with the Helsinki Declaration, the nurses were informed about the study, and their informed consent was obtained. After obtaining verbal consent from the nurses who volunteered to participate in the study, they were included in the study.

Conflict of Interest: No conflict of interest was declared by the authors.

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