Turk J Intensive Care
DOI: 10.4274/tybd.galenos.2022.65807

ORIGINAL RESEARCH / *ÖZGÜN ARAŞTIRMA*

Dilek Büyükkaya Besen,
Merve Günbaş,
Merve Dervişoğlu

COVID-19 Experiences of Turkish Intensıve Care Nurses: A Qualitative Study

Türk Yoğun Bakım Hemşirelerinin COVİD-19 Deneyimleri: Nitel Araştırma

Received/Geliş Tarihi : 30.08.2022
Accepted/Kabul Tarihi : 21.09.2022

Dilek Büyükkaya Besen, Merve Günbaş, Merve Dervişoğlu
Dokuz Eylül University Faculty of Nursing, Department of Internal Medicine Nursing, İzmir, Turkey

Merve Günbaş (✉),
Dokuz Eylül University Faculty of Medicine, Department of Internal Medicine Nursing, İzmir, Turkey

E-mail : mervegunbas94@gmail.com
Phone : +90 534 263 91 13
ORCID ID : orcid.org/0000-0001-7868-3292

ABSTRACT *Objective:* Nurses and healthcare workers are at the forefront of the fight against COVID-19. This study was conducted to reveal the problems, motivation and support resources of intensive care nurses during the pandemic process.
Materials and Methods: This study was a descriptive qualitative research. The study sample consisted of 12 intensive care nurses who worked in the intensive care unit of a state hospital in İzmir and gave care to patients with a diagnosis of COVID-19.
Results: Main themes and subthemes; Emotions (worry/anxiety), Difficulties in patient care (aspiration, intubation) Precautions taken by nurses in this process (internal isolation), The effects of the COVID-19 pandemic on intensive care nurses (physical; back pain, psychological; sleep problems,social;exclusion), Support and motivation resources of intensive care nurses in the COVID-19 pandemic (team friends support), Positive contributions of the pandemic process (crisis management) have were determined.
Conclusion: Intensive care nurses experienced physical, psychological and social problems during the pandemic; it has been revealed that they are trying to get stronger with the support and motivation resources in this process.
Keywords: COVID-19, intensive care nurse, pandemic, experiences

ÖZ *Amaç:* Hemşireler, COVID-19 ile mücadelenin ön saflarında yer alan sağlık çalışanlarıdır. Bu araştırma, yoğun bakım hemşirelerinin pandemi sürecinde yaşadıkları sorunları, motivasyonlarını ve destek kaynaklarını ortaya çıkarmak amacıyla yapılmıştır.
Gereç ve Yöntem: Araştırma betimsel nitel bir araştırmadır. Araştırmanın örneklemini İzmir'de bir devlet hastanesinin yoğun bakım ünitesinde çalışan ve COVID-19 tanılı hastalara bakım veren 12 yoğun bakım hemşiresi oluşturmuştur.
Bulgular: Ana temalar ve alt temalar; Duygular (endişe/kaygı), Hasta bakımındaki zorluklar (aspirasyon, entübasyon) Bu süreçte hemşirelerin aldığı önlemler (iç izolasyon), COVID-19 pandemisinin yoğun bakım hemşireleri üzerindeki etkileri (fiziksel; sırt ağrısı, psikolojik; uyku sorunları),sosyal;dışlama), COVID-19 pandemisine dahil olan yoğun bakım hemşirelerinin destek ve motivasyon kaynakları (ekip arkadaşları desteği), Pandemi sürecinin (kriz yönetimi) olumlu katkıları belirlenmiştir.
Sonuç: Yoğun bakım hemşireleri pandemi sürecinde fiziksel, psikolojik ve sosyal sorunlar yaşamış; Bu süreçte destek ve motivasyon kaynakları ile güçlenmeye çalıştıkları ortaya çıktı.
Anahtar Kelimeler: COVID-19, yoğun bakım hemşireliği, pandemi, deneyimler

Introduction

An unexpected virus, severe symptoms seen in people infected with the virus, and a rapidly increasing number of cases worldwide have caused a rapid change in the activities of intensive care units (1). Due to the virus high rate of spread, the serious effects on public health, and the death of thousands of people, the COVID-19 outbreak was declared a pandemic by the World Health Organization (2). The first COVID-19 case in Turkey was announced on March 10, 2020, and this number has gradually increased.

COVID-19 infection has become a universal problem with widespread respiratory symptoms causing pneumonia, severe acute respiratory infection, kidney failure, and death in severe cases. (2). COVID-19 infection is a highly contagious disease and the virus poses a huge threat to healthcare workers. There has been a sudden increase in the number

of intensive care beds due to COVID-19 worldwide. In this sudden increase, additional intensive care units were opened with the support of nurses in the healthcare system, and the number of beds was increased (3). This increase has seriously increased the workload of nurses (1). The main reason for the increase in the workload per patient is more intensive hygiene practices, difficult mobilization, support programs for patient relatives, maintenance of respiratory function, and an increase in the number of deaths (1).

Nurses are at the forefront of the management of the COVID-19 pandemic, providing care to patients with direct close physical contact, and therefore they are in a perilous group for infection (4,5,6,7,8). Individuals who require intensive care in the COVID-19 pandemic are generally older and have a history of comorbid disease. Severe pneumonia resulting in breathing difficulties in COVID-19 infection has resulted in the hospitalization of thousands of people.

Two-thirds of the individuals in need of intensive care met the criteria for acute respiratory distress syndrome (ARDS) and respiratory support was required (9). Intensive care nurses have undertaken important duties in meeting the care needs of individuals experiencing advanced symptoms of the disease during the COVID-19 global epidemic. In this infectious disease pandemic, which affects a large number of people, intensive care units have become the most important units for patients. Since the majority of severe COVID-19 patients need mechanical ventilators, intensive care nurses; Close monitoring and maintenance of the patient's respiratory functions, aspiration of secretions, oral care, giving the patient the prone position, monitoring of early sepsis symptoms, regular application of critical supportive treatments determined by the physician at appropriate doses, maintaining the patient's enteral nutrition, ensuring hygiene requirements, blood gas analysis and throughout this process, they have many other responsibilities such as informing the physician when necessary (10,11). During all these treatments and care practices, the distance between the intensive care nurse and individuals with COVID-19 (+) or suspected (+) individuals can be at most 10 cm. Due to the care and treatment needs of the patient, it is very rarely possible for the intensive care nurse to leave the patient's room, to enter and exit the patient's room less, or to stay away or behind. Many international scientific associations, especially the World Federation of Intensive Care Nurses; emphasize that the patient: a nurse ratio should be 2:1 for the care of critically ill (not mechanically ventilated) patients who require complex care, but 1:1 for critically ill patients who are mechanically ventilated and highly dependent. Although there is no evidence in the literature yet, China and the United States, etc., where the pandemic spread before Turkey. The practice made and recommended by countries is that one intensive care nurse takes care of a patient with COVID (+) due to the high risk of transmission, as well as the critical patient is connected to a mechanical ventilator. (10,12). For this reason, providing care to many patients with high viral load for a long time poses a dreadful risk in terms of transmission of the disease to intensive care nurses (10). The anxiety experienced by nurses when caring for infected patients during a pandemic is related to their susceptibility to infection, being carriers of the source of infection, and death anxiety to a large extent (13,14,15,16,17,18).

Nurses are particularly concerned about spreading the infection to family members in the risk group, such as the elderly, immunocompromised, and children. To protect family members from infection, some nurses have self-isolated from their relatives (13,16,19). It is stated that despite the protective measures, nurses who take an active part in this fight against COVID-19 and conduct care practices still experience fear and anxiety for themselves, their patients, colleagues, teammates, and families, like every individual in society (5).

To date, there is limited research on nurses' experiences of a pandemic or outbreak, isolated from other healthcare professionals (13,16,20,21). During a pandemic, the effects of working on nurses should be known and made visible. Addition to, it is vital to understand the effects of the pandemic process on nurses and to determine the nurses' experiences to ensure the quality of health services. In this study, the experiences of intensive care nurses who have managed the COVID-19 pandemic with close follow-up, observation, and successful attempts will be reported.

Materials and Methods

This research was carried out in phenomenological type to determine both physical and psychological problems experienced by intensive care nurses during the COVID-19 pandemic process. The research focused on the problems experienced by intensive care nurses in combating a pandemic they had not experienced before, difficulties in patient care, difficulties in using equipment, being away from

their families, and psychological difficulties they experienced in social isolation.

Research Questions

1. What are the feelings of intensive care nurses providing care in the COVID-19 pandemic?
2. What are the difficulties faced by intensive care nurses in patient care during the COVID-19 pandemic?
3. What are the precautions taken by the intensive care nurses during care in the COVID-19 pandemic?
4. What are the effects (physical, psychological, social) of the COVID-19 pandemic on intensive care nurses?
5. What are the sources of support and motivation for intensive care nurses during the COVID-19 pandemic?

Population and Sample of the Research

The population of the study consisted of intensive care nurses who gave care to patients with a diagnosis of COVID-19 who were working in a state hospital in Izmir. The sample consisted of nurses who agreed to participate in the study voluntarily. Due to qualitative research and data collection, the sample size was determined according to the saturation of the data, and in-depth interviews were conducted with 12 nurses.

Inclusion Criteria

Intensive care nurses who care for patients over the age of 18 with a diagnosis of COVID-19 were included. Nurses who did not agree to participate in the study were excluded from the study.

Research Method

As a data collection tool in the research, a semi-structured interview questionnaire was used as it allows asking in-depth questions on a subject and asking questions again when the answer is unclear. The created questionnaire consists of two parts. The first part includes questions about socio-demographics, and the second part includes questions specific to experiences and needs related to the COVID-19 process. The interview questions were prepared with care not to direct the participants. The interviews were conducted face-to-face for an average of 30 minutes. During the interviews, standardized questions prepared by the researchers were asked and voice recordings of the participants were taken. The opinions of the participants were coded without giving their names, based on confidentiality.

Statistical Analysis

Qualitative content analysis method was used in data analysis. Researchers made content analyses independently and each researcher created a code list. The researchers discussed the codes and themes they created until they reached a consensus. The original form of the collected data was adhered to while the data were being dumped. The validity of the originality was increased by quoting the participant statements directly. In content analysis, the data were analyzed in four stages. (1) coding the data, (2) finding the codes, categories, and themes, (3) organizing the codes, categories, and themes, and (4) defining and interpreting the findings. Descriptive analysis will also consist of a four-stage process.

Validity-Reliability of the Study: Kappa analysis was used to analyze whether the expressions of nurses met the themes. After a few expressions under the themes were chosen randomly, they were sent to experts in their fields (academics, specialist nurses). The specialist was asked to match the patient's expressions with the themes. Because of the Kappa analysis, it was determined that there was an excellent level of agreement ($k=1$, $p<0.001$).

Internal validity (credibility): Prolonged involvement, deep-focused interviews, and member checking were used to reveal the internal validity of the findings. The duration of the research data collection varies between a mean of 30 min, and with long-term interviews, an environment of trust was created and more sincere/reliable answers were obtained. Under the purpose of the study, the interviews were terminated when the data reached the saturation point. The researcher who conducted the interview took the participant's confirmation to verify the information he obtained during the data collection process. Two experts experienced in qualitative research were asked to examine all aspects of the study.

External validity (transferability): The data were transferred without adding comments. Purposive sampling was used. Internal reliability (consistency): The semi-structured interview form was prepared in line with the literature. The researcher who collected the data was consistent with all processes of the study. The researcher used the same interview form and voice recorder in all interviews. External reliability (confirmability): The researchers worked independently of each other in the creation of the data collection form and the analysis of the data. Afterward, a meeting was held and the themes were clarified. After the

findings were finalized, the compatibility of categories and themes was examined by two experts. This article has been checked against the COREQ checklist (22).

This study was conducted under the principles of the Declaration of Helsinki. Permission was obtained from the Ministry of Health Scientific Research Platform. Ethics committee approval was obtained for this research. After the approval of the Ethics Committee, written institutional permission was obtained from the state hospital in Izmir, where the research will be conducted. Informed consent was obtained from the individuals participating in the study.

Results

The experiences of the nurses who participated in this study were summarized in six main themes.

In the study, 83% of the nurses participating in the study were female and 17% were male. 67% of them are in the 25–35 age range. 50% of this participants have been working for 1–9 years and 75% of them have been working in intensive care for 1–9 years. 67% of them had PCR test, and 63% of them had PCR test 1–5 times (Table 1).

The nurses who participated in this study reported that they experienced **fear, anxiety, and worry** during the pandemic process and were generally afraid of infecting vırus their families (Table 2).

"Nurses participating in the study reported that they had fear of being infected with the virus, infecting their relatives, stigma, and being away from their loved ones." (N3)

In this study, it has been reported that the intensive care nurses who care during the COVID-19 process have difficulty in applications such as aspiration, intubation, and oral care, which have a higher risk of virus transmission. It was stated that the most challenging equipment was glasses, masks, and overalls. Nurses reported that they were physically and psychologically worn out due to patient care and the use of difficult equipment (Table 3).

"The application that I think is the most challenging and with the highest risk of contamination during the pandemic process is an aspiration, oral care, intubation, feeding of the conscious patient, general body care, Ambu application, and CPAP application." (N5)

It was determined that the nurses who participated in this study stayed away from their homes and children during this process and those who stayed in the same house-applied room isolation (Table 4).

"I had a shower in the hospital, I was isolated at home, I used public transportation, I ate alone, I moved to a separate house, and I did not see my family members, children, and friends. In this process, I took these precautions." (N7)

Table 1. Descriptive characteristics of nurses (n=12)

Variable		n	(%)
Gender	Female Male	10 2	(83%) 17%
Age	25-35 35-45	8 4	67% 33%
Marital status	Married Single	6 6	50% 50%
Educational status	Pre-licence License Master's Degree	1 10 1	8.3% 83.3% 8.3%
Work experience as a nurse	1-9 years 10-19 years 20-29 years	6 4 2	50% 33% 17%
Work experience as an intensive care nurse	1-9 years 10-19 years	9 3	75% 25%
Have you had a COVID-19 test?	Yes No	8 4	67% 33%
Why did he get COVID-19 test?	Contacted Symptom developed	3 5	63% 37%
How many times has the nurse been tested?	1-5 times 6-10 times	5 2	63% 37%

Intensive care nurses reported the physical effects of the COVID-19 pandemic as back and leg pain, skin problems due to frequent hand washing, sweating due to protective equipment, and headaches due to masks. They started the psychological and social effects of the pandemic as an increase in their longing for their relatives, a feeling of loneliness, and a sense of social stigma and exclusion due to being a healthcare worker. (Table 5).

Table 2. Emotions of intensive care nurses caring for the COVID-19 pandemic

Theme	Sub-themes	Nurses Statements
Emotions of intensive care nurses caring in the COVID-19 pandemic	Fear	N6: 'When I first heard that I will start caring for a patient diagnosed with COVID-19, I was horrified, we were entering an unknown process, I felt like soldiers in the war.' N4: 'I was unafraid of being infected with the virus, I was afraid of infecting my children and relatives with the disease me.' N9: 'I was afraid of not being able to provide adequate care to patients and that I would be infected.'
	Worry/Anxiety	N11: 'At first we were worried. Thanks to our experience and the support we give to each other with our teammates, our anxiety has decreased day by day.' N1: 'I was worried because we did not know the course of the disease at the beginning of the pandemic, and we did not know what awaited patients in the future. ' N7: 'The sudden worsening of the patient's condition worried us.'

Table 3. Challenges of intensive care nurses during the COVID-19 pandemic

Themes	Sub-Themes	Nurses Statements
Challenges of Intensive Care Nurses during the COVID-19 Pandemic	Coercive Practices During a Pandemic Process	N12: 'I am afraid to apply CPAP because it increases the risk of transmission.' N8: 'We were supporting the oral nutrition of conscious patients. Even though we had full protective equipment, we were in direct contact with the patient's secretions. We fed them with our hands. I think the risk of transmission is very high because we come into very close contact.'
	Forceful Equipment in the Pandemic Process	N2: 'My most disturbing protective equipment in patient care was the N95 mask, overalls, and goggles.' N6: 'The glasses fog a lot and restrict the field of view when approaching the patient. It is very difficult to work with aprons all the time and I sweat all the time. The mask, on the other hand, makes it difficult for me to breathe easily and I always have pressure marks on my face.' N7: 'Sweat a lot in my overalls. I feel the need to constantly change uniforms. The glasses were making too much steam. I have asthma and have a hard time breathing with masks.' N9: 'We had to work more carefully because of the steam in the goggles. During this, we were both more careful and faster, and we intervened immediately. However, this process has worn us out physically and psychologically.'

Table 4. The precautions taken by intensive care nurses during the COVID-19 pandemic

Themes	Nurses Statements
Precautions Taken by Intensive Care Nurses during the COVID-19 Pandemic	N6: 'I didn't leave the house for 2–3 days and I applied room isolation when I stayed at home. I wore a mask at home. I separated forks and spoons. I was away from my children. During this time, I did not use public transportation.' N3: 'Clean the bathroom and toilet constantly. I had a shower before I came face to face with my children. We created an isolation room at home and ate our meals separately.' N5: 'At the beginning of the process, I stayed in dormitories arranged by the state. I was separated from my children for a month. Afterward, I realized that this process would not end immediately, I got used to the methods of protection, I knew better what to do now, I went back to my home.' N4: 'I haven't been in the same room with my 2 sons for about 3 months. I used a separate toilet. I used a mask during cooking. We made room isolation and ate our meals separately.' N6: 'Since I live with my family, I have stayed at my friends' house for 1.5 months. I was afraid of infecting my mother with the virus. When I saw these cases, which were transmitted from the children of hospitalized patients, I began to fear more. I didn't see my family.'

Table 5. Effects of the COVID-19 pandemic on intensive care nurses (physical, psychological, social)		
Themes	**Sub-themes**	**Nurses Statements**
Effects of The COVID-19 Pandemic on Intensive Care Nurses	Physical Problems Occurring During The Pandemic Process	N6: 'Because of the patient density, I stayed up longer. Since I could not meet my toilet needs overall, I drank almost less water. I had kidney pain. I've had many headaches attached to ffp2 masks. I felt exhausted after the seizure.' N9: 'Due to the workload, we couldn't rest enough, we stood for too long, and we were sweating a lot in our overalls. When we took off the overalls, we experienced back and leg stiffness. I had to change my jersey every time I got out of my overalls. I had an allergic runny nose, headache, and migraine attacks. Due to more frequent washing of our hands and the use of disinfectants, cracks and eczema occurred on our hands.' N11: 'When I took off my overalls, I was sweating down to my socks. I frequently unıform changed. I had foot and leg pains.' N8: 'I lose many fluids because I sweat excessively in the overalls. My uniform is soaked with sweat. I have constant headaches. I can't breathe easily in the mask. I am experiencing increased fatigue and pain.'
	Psychological Issues in Pandemic Process	N6: 'I am experiencing problems such as sleep problems, longing, loneliness, anxiety, and tension during the pandemic process.' N5: 'We are so worn out psychologically. During this period, we supported each other with our colleagues. Being together with people who are in the same situation as us has increased my strength.' N4: 'My wife has hypertension, I was afraid of infecting her. This increased my stress even more.' N1: 'People around us were worried that we could infect them because we are healthcare professionals. When it was Boyle, I got nervous too. But as the process progressed, we started to gain acceptance.' N9: 'There were many negative people around me during this process. I was careful not to talk to people who weren't going through the same thing as me. I stayed away from them. They looked at me with pity.' N3: 'Because we do not have a social life and work is busy, I started to not be able to enjoy life, I went into burnout syndrome. I've come to the point of quitting my job. But we gave patient care in the best way possible. Seeing the patients recovering was raising our hopes.'
	Social Problems in a Pandemic Process	N11: 'My partner was horrified at first. So, my partner and I stayed in different rooms. I didn't meet my parents for a while. I felt like my neighbors were looking at me with pity on my way to work. I never took off my mask in not to disturb my neighbors.' N4: 'Not being able to see our friends have affected us negatively. Even if we meet, I felt that they were uncomfortable with me because I was a hospital employee, I could not go to the meet.' N5: 'When my neighbors saw me, they were worried that you might infect us with a virus.' N4: 'I felt excluded, there were people who did not want to see me because I am a healthcare worker. My acquaintances conveyed their prayers to me through messages and telephone

"I have back and leg pain. I have eczema and urticaria problems. I drink very little water as it is difficult to put on and take off the overalls. Therefore, urinary tract infections developed. It progressed in my leg varicose veins." (N1)

During this process, intensive care nurses reported that they received support from their families and teammates and that they wanted to receive financial support as well. Motivation sources are also to help patients and to be shown as a source of pride by society (Table 6).

"I did not receive support from psychiatry. Someone who has not experienced this process and this fear cannot know how I feel. Cannot support me in this matter." (N5)

During this period, they reported that they were more confident, experienced, and more comfortable while giving care to the patient during their seizures two months after the first patient care (Table 7).

"Started to do my job more confident. The stones have begun to fall into place. We are experienced in protection and care. Our stress and tension have decreased." (N12)

Most of the intensive care nurses reported that the process did not make a positive contribution. Some nurses reported that their professional development increased, their crisis management skills improved and their professional values increased in the society expressed (Table 8).

"I've seen too many complicated cases in a short time. I have developed myself more in terms of nursing. During this period, we became stronger as nurses. We saw the importance of teamwork more." (N9)

Table 6. Support and motivation resources of intensive care nurses in the COVID-19 pandemic		
Themes	**Sub-themes**	**Nurses Statements**
Support and motivation resources of intensive care nurses in the COVID-19 pandemic	Support Systems in the Pandemic Process Financial support Support from Colleagues Family, friend support Moral support Psychological support	N6: "In this process, I want to increase the number of nurses and let us rest more. We are exhausted physically and psychologically.' N7: 'Activities that will increase our motivation psychologically and socially can be planned. Concerts and events can only be organized for healthcare professionals.' N2: 'All occupational groups work with flexible hours, and health professionals work overtime. We, as health professionals, are exhausted. '
	Motivation Sources During the Pandemic Process	N6: 'Since I had the COVID-19 disease, I could understand how the patients in the intensive care unit felt. I tried motivating the patients to get well. Caring for and supporting patients who needed me increased my motivation.'
	We hope that the bad days will end one day	N11: 'I didn't have any source of motivation. We continued to do our job in the hope that this disease will one day end.'
	Being a source of pride	N8: 'Patients were our biggest motivation.' N7: 'We were motivated by the thanks and applause support given to the healthcare professionals on social media and television.'

Table 7. Difference between the first pandemic shift and the shift at the end of two months		
Themes	**Sub-themes**	**Nurses Statements**
	Experience and knowledge increase	N6: 'As I gained experience in treatment and care planning, I started to do it better. I learned to motivate myself. I learned how to protect myself. I was more relaxed than the first shift.'
The Difference Between the First Pandemic Seizure and the Seizure at the End of 2 Months	Learning to protect yourself	N9: 'We learned to use protective equipment. We saw that it is not easy to infect. We have experienced that the equipment protects us. Our knowledge of the disease process has increased. We felt more comfortable while giving care.'
	Relaxation when approaching the patient	N11: 'I felt more comfortable. I could manage care better. Intensive care is an environment that requires teamwork. As we learned to manage the whole team, our risk of contagion decreased.'

Table 8. Positive contribution to the pandemic process		
Themes	**Sub-themes**	**Nurses Statements**
Positive Contribution To The Pandemic Process	Did Not Contribute Positively	N12: 'Don't think it has a positive effect. We are exhausted physically and psychologically.'
	Professional Development	N9: 'Our professional development has increased in a short time. We learned fast patient care. We better understood the importance of seconds inpatient intervention.'
	Increasing The Value Of The Profession in Society	N9: 'It has been seen that the nursing profession has a very different and valuable dimension that distinguishes it from other professions. It has been seen how valuable and needed nurses who work for 24 h in patient care are during a pandemic. We have seen that we can overcome all difficulties.'
	Crisis Management	N1: 'I feel more advanced. I learned more about nursing initiatives, nursing care, and crisis management in a short time. I used my coping skills.'

Discussion

In this study, COVID-19 pandemics of intensive care nurses involved throughout the process to determine both physical and psychological problems they experience in this process, how they cope with this problem, is conducted to determine what they feel. This study results have shown once again the burden of nurses working in the pandemic. It is aimed to identify the aspects that need to be supported by nurses, who constitute the largest part of the healthcare system and to make their problems visible to increase their motivation. Nurses who experienced fear and anxiety when

they first started to care for patients said that they gave care in a more comfortable, self-confident, and experienced way during their after two-month shifts. Nurses, who gave care with more negative emotions at the beginning, had positive feelings as the process progressed.

Physical fatigue, discomfort, and intense stress experienced by nurses caring for COVID-19 patients in problems such as working hours were also similar in the Ebola and MERS-Cov epidemics (23,24,25). Because of the results obtained in this study, nurses fear the risk of contamination due to the presence of a child and an elderly individual in the family Sun et al. showed consistent results with their study (26).

Because of these studies, many negative situations such as fear, anxiety, worry, and helplessness have been recorded in health workers in cases of epidemics (23,27). In this study, it was observed that nurses experienced fear and anxiety at the beginning of patient care. In cases of an epidemic, nurses should be included in psychological support programs in the early period. As in the results of other studies, nurses in this study reported that they were afraid of the virus infecting themselves and their relatives (21,28). In addition to working in difficult conditions with fear, the fact that the nurses distanced themselves from their relatives reduced their social support, and the nurses who stayed home distanced themselves from their families in the form of room isolation. In many studies, epidemic diseases cause psychological trauma to caregivers (29,30). Because of this study, it was observed that nurses experienced negative emotions such as fear and anxiety during the patient care process. It has been reported that situations such as being appreciated, applauded, and thanked by society in addition to negative emotions make nurses proud. The nurses participating in the study reported that they were exhausted during this process, had difficulty staying with protective equipment during long working hours, and had many physical problems due to the equipment. They reported physical problems such as sweating a lot due to overalls, and low back and leg pain due to standing for a long time. because of the addition of fatigue and stress factors, the immune system of the nurses weakened, and the risk of getting sick increase. Liu et al. In their study, reported that nurses had difficulties working with protective equipment, especially staying in overalls made them sweat and made movement difficult (31).

Sun et al. ın their study "I have a headache, chest tightness, palpitations due to wearing protective clothing for a long time. The surgical mask strap compressed my ears. When I take off my protective gear, my whole body sweats, and I feel like I will pass out" Other Studies on the difficulty of using the equipment stated in the form of it has been reported that there is a serious increase in the workload of nurses who care for COVID-19 patients (32,33,1). It has been observed that the high workload of intensive care nurses affects both the risk of burnout and the quality of care (34).

The sudden development of the epidemics led intensive care nurses to an unknown path, but they reported that seeing many cases in this short time contributed a lot to their professional development. Liu et al. Similar results were obtained in a study (31). Despite the various difficulties they face, the only aim of intensive care nurses is to serve their patients been to providing quality care and ensuring their recovery. They have succeeded in overcoming situations such as fear, anxiety, and stress. They stated that the most important support systems in this process were their teammates, and they also stated that they had moral support from their families, albeit from a distance. During this difficult period, almost all of the intensive care nurses did not receive psychological support. However, it is recommended that nurses struggling with the epidemic receive expert support. Thanks that will help them deal with the problem (35). Some nurses who participated in this study had not seen their children for months. Some nurses stayed away from their children in the same house, and in this process, nurses needed psychological support. Nurses weren't afraid of getting infected They had a fear of infecting their families. Sun et al. "My child and my mother cry every day, they are afraid that will infect me with a virus, but I am more worried about them. . . Even if it is difficult to provide individual support programs, nurses' stress can be relieved by group interviews with the intensive care team. Studies on previous outbreaks have also reported that nurses experience burnout, fatigue, exhaustion, and a high workload (35). However, they struggled with a psychological burden and physical fatigue. Intensive care nurses had overcome the negative emotions experienced by To, manager nurses, and psychologists It was suggested that nurses listen to their concerns and bring appropriate solutions (36).

Conclusion

This study has shown that nurses play an important role in health care during the pandemic. Concrete measures

should be taken, such as the need to develop support systems for nurses who are physically and psychologically under a heavy burden, increase the number of staff, reduce long working hours, and make plans to minimize the risk of contamination. In this study, it was observed that nurses experience positive and negative emotions at the same time. While thinking about their families, they also worried about their patients, and despite their physical exhaustion, they managed to provide the best patient care.

The fact that nurses who experienced fear and anxiety at the beginning of the pandemic gave care in a more comfortable, self-confident, and experienced manner in their shifts two months later shows that they came out of the negative process stronger. This study is important in terms of determining the needs and difficulties of intensive care nurses in the fight against a pandemic that will occur in the future and taking facilitating measures. It has shown that nurses, who are such a strong professional group, should be prioritized and supported more during this and similar crisis process.

Acknowledgment: We would like to express this gratitude to the participants and hospital administration, who made this study possible. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethics

Ethics Committee Approval: Ethics committee approval was obtained for this research. After the approval of the Dokuz Eylül University Ethics Committee (decision no: 2020/22-25, date: 21.09.2020), written institutional permission was obtained from the state hospital in Izmir, where the research will be conducted.

Informed Consent: Informed consent was obtained from the individuals participating in the study.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: D.B.B., Design: D.B.B., Data Collection and Process: M.G., M.D, Analysis or Interpretation: D.B.B., M.G., M.D., Literature Search: M.G., M.D., Writing: D.B.B., M.G., M.D.

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

Financial Disclosure: The authors declared that this study received no financial support.

References

1. Bruyneel A., Lucchini A., & Hoogendoorn M. Impact of COVID-19 on nursing workload as measured with the Nursing Activities Score in intensive care. Intensive Critical Care Nursing 2021; 11:69,103170. doi: 10.1016/j.iccn.2021.103170.
2. Republic of Turkey Ministry of Health General Directorate of Public Health. (2020). COVID-19 (SARS-CoV-2 Infection) Guide. Access 20.10.2021.
3. Marks S, Edwards S, Jerge EH. Rapid Deployment of Critical Care Nurse Education During the COVID-19 Pandemic. Nurse Lead 2021;19(2):165-169. doi:10.1016/j.mnl.2020.07.008
4. Huang L, Lin G, Tang L, Yu L, Zhou Z. Special attention to nurses' protection during the COVID-19 epidemic. Crit Care. 2020;24(1):120. Published 2020 Mar 27. doi:10.1186/s13054-020-2841-7
5. Jackson D, Bradbury-Jones C, Baptiste D, et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. J Clin Nurs. 2020;29(13-14):2041-2043. doi:10.1111/jocn.15257
6. Seale H, Leask J, Po K, MacIntyre CR. "Will they just pack up and leave?" - attitudes and intended behaviour of hospital health care workers during an influenza pandemic. BMC Health Serv Res. 2009;9:30. Published 2009 Feb 13. doi:10.1186/1472-6963-9-30
7. Hope K, Massey PD, Osbourn M, et al. Senior clinical nurses effectively contribute to the pandemic influenza public health response. Australian Journal of Advanced Nursing (Online) 2011; 28:(3), 47.
8. Chiang HH, Chen MB, Sue IL. Self-state of nurses in caring for SARS survivors. Nurs Ethics. 2007;14(1):18-26. doi:10.1177/0969733007071353
9. Yang X, Yu Y, Xu J, et al. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study [published correction appears in Lancet Respir Med. 2020 Apr;8(4):e26]. Lancet Respir Med. 2020;8(5):475-481. doi:10.1016/S2213-2600(20)30079-5
10. Kıraner E, Terzi B. Intensive Care Nursing in the COVID-19 Pandemic Process. Journal of Intensive Care Nursing 2020;24: 284-286. doi: 10.5222/HEAD.2020.35556
11. Murthy S, Gomersall CD, Fowler RA. Care for Critically Ill Patients With COVID-19. JAMA. 2020;323(15):1499-1500. doi:10.1001/jama.2020.3633
12. Halaçlı B, Kaya Akın, Topeli A. Critically ill COVID-19 patient. Turkish Journal of Medicine Sciences 2020;50, 585-591. doi.org/10.3906/sag-2004-122
13. Lam KK, Hung SY. Perceptions of emergency nurses during the human swine influenza outbreak: a qualitative study. Int Emerg Nurs. 2013;21(4):240-246. doi:10.1016/j.ienj.2012.08.008
14. Holroyd E, McNaught C. The SARS crisis: reflections of Hong Kong nurses. Int Nurs Rev. 2008;55(1):27-33. doi:10.1111/j.1466-7657.2007.00586.x
15. Khalid I, Khalid TJ, Qabajah MR, Barnard AG, Qushmaq IA. Healthcare Workers Emotions, Perceived Stressors and Coping Strategies During a MERS-CoV Outbreak. Clin Med Res. 2016;14(1):7-14. doi:10.3121/cmr.2016.1303
16. Koh Y, Hegney D, Drury V. Nurses' perceptions of risk from emerging respiratory infectious diseases: a Singapore study. Int J Nurs Pract. 2012;18(2):195-204. doi:10.1111/j.1440-172X.2012.02018.x
17. Chung BP, Wong TK, Suen ES, Chung JW. SARS: caring for patients in Hong Kong. J Clin Nurs. 2005;14(4):510-517. doi:10.1111/j.1365-2702.2004.01072.x
18. Carmassi C, Foghi C, Dell'Oste V, et al. PTSD symptoms in healthcare workers facing the three coronavirus outbreaks: What can we expect after the COVID-19 pandemic. Psychiatry Res. 2020;292:113312. doi:10.1016/j.psychres.2020.113312
19. Ives J, Greenfield S, Parry JM, et al. Healthcare workers' attitudes to working during pandemic influenza: a qualitative study. BMC Public Health. 2009;9:56. Published 2009 Feb 12. doi:10.1186/1471-2458-9-56
20. Corley A, Hammond NE, Fraser JF. The experiences of health care workers employed in an Australian intensive care unit during the H1N1 Influenza pandemic of 2009: a phenomenological study. Int J Nurs Stud. 2010;47(5):577-585. doi:10.1016/j.ijnurstu.2009.11.015
21. Fernandez R, Lord H, Halcomb E, et al. Implications for COVID-19: A systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic. Int J Nurs Stud. 2020;111:103637. doi:10.1016/j.ijnurstu.2020.103637
22. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19(6):349-357. doi:10.1093/intqhc/mzm042
23. Kim Y. Nurses' experiences of care for patients with Middle East respiratory syndrome-coronavirus in South Korea. Am J Infect Control. 2018;46(7):781-787. doi:10.1016/j.ajic.2018.01.012
24. Jackson D, Bradbury-Jones C, Baptiste D, et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. J Clin Nurs. 2020;29(13-14):2041-2043. doi:10.1111/jocn.15257
25. Kang HS, Son YD, Chae SM, et al. Working experiences of nurses during the Middle East respiratory syndrome outbreak. International Journal of Nursing Practice 2018; 24:(5), e12664. doi: 10.1111/ijn.12664.
26. Sun N, Wei L, Shi S, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control. 2020;48(6):592-598. doi:10.1016/j.ajic.2020.03.018
27. O'Boyle C, Robertson C, Secor-Turner M. Nurses' beliefs about public health emergencies: fear of abandonment. Am J Infect Control. 2006;34(6):351-357. doi:10.1016/j.ajic.2006.01.012
28. Arnetz JE, Goetz CM, Sudan S, Arble E, Janisse J, Arnetz BB. Personal Protective Equipment and Mental Health Symptoms Among Nurses During the COVID-19 Pandemic. J Occup Environ Med. 2020;62(11):892-897. doi:10.1097/JOM.0000000000001999
29. Sun N, Wei L, Shi S, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control. 2020;48(6):592-598. doi:10.1016/j.ajic.2020.03.018
30. Kang L, Li Y, Hu S, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. Lancet Psychiatry. 2020;7(3):e14. doi:10.1016/S2215-0366(20)30047-X
31. Liu Q, Luo D, Haase JE, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. Lancet Glob Health. 2020;8(6):e790-e798. doi:10.1016/S2214-109X(20)30204-7
32. Lucchini A, Giani M, Elli S, Villa S, Rona R, Foti G. Nursing Activities Score is increased in COVID-19 patients. Intensive Crit Care Nurs. 2020;59:102876. doi:10.1016/j.iccn.2020.102876
33. Hoogendoorn ME, Brinkman S, Bosman RJ, Haringman J, de Keizer NF, Spijkstra JJ. The impact of COVID-19 on nursing workload and planning of nursing staff

on the Intensive Care: A prospective descriptive multicenter study. Int J Nurs Stud. 2021;121:104005. doi:10.1016/j.ijnurstu.2021.104005

34. Rae PJL, Pearce S, Greaves PJ, Dall'Ora C, Griffiths P, Endacott R. Outcomes sensitive to critical care nurse staffing levels: A systematic review. Intensive Crit Care Nurs. 2021;67:103110. doi:10.1016/j.iccn.2021.103110
35. Joo JY, Liu MF. Nurses' barriers to caring for patients with COVID-19: a qualitative systematic review. Int Nurs Rev. 2021;68(2):202-213. doi:10.1111/inr.12648
36. Yin X, Zeng L. A study on the psychological needs of nurses caring for patients with coronavirus disease 2019 from the perspective of the existence, relatedness, and growth theory [published correction appears in Int J Nurs Sci. 2020 Dec 06;8(1):V]. Int J Nurs Sci. 2020;7(2):157-160. Published 2020 Apr 4. doi:10.1016/j.ijnss.2020.04.002