

ORIGINAL ARTICLE

The Experiences of Intensive Care Nurses During the COVID-19 Crisis in Türkiye: A Qualitative Study

Türkiye’de COVID-19 Krizinde Yoğun Bakım Hemşirelerinin Deneyimleri: Nitel Bir Çalışma

¹Duygu Kes , ²Eda Kes 

¹Karabük University, Faculty of Health Sciences, Department of Nursing, Demir-Celik Campus, Karabük/TÜRKİYE
²Bartın University, Faculty of Health Sciences, Department of Nursing, Agdacı Campus, Bartın/TÜRKİYE

Correspondence

Duygu Kes, Karabük University, Faculty of Health Sciences, Department of Nursing, DemirCelik Campus, 78050, Karabük, Turkey.

E-Mail: duygukes@karabuk.edu.tr

Note: This research was presented verbally presentation and published in the abstract book at V. International Conference On Covid-19 Studies in Ankara on 24-25 September 2021.

How to cite ?

Kes D. , Kes E. The Experiences of Intensive Care Nurses During the COVID-19 Crisis in Türkiye: A Qualitative Study. Genel Tıp Dergisi. 2023; 33(4): 439-444.

ABSTRACT

Background/Purpose: This study aimed to investigate the experiences of intensive care nurses who provided care for COVID-19 patients during the pandemic period.

Methods: This study is a descriptive phenomenological study with thematic analysis. Semi-structured interviews were conducted with 10 intensive care nurses in a pandemic hospital which has a total of seven intensive care units with a capacity of 88 beds in northwestern Türkiye.

Results: Five main themes and 13 sub-themes emerged from the analysis. The main themes were Professional relations, working conditions, safety, nursing care and psychological aspect.

Conclusion: Intensive care nurses experienced intense emotional burden, fear of the unknown, perception of insufficiency and increased workload during the COVID-19 pandemic. Nursing care were affected by the changes in the course of the disease and isolation.

Keywords: COVID-19, experience, intensive care nursing, pandemic, qualitative research

ÖZ

Giriş/Amaç: Bu çalışmada pandemi döneminde COVID-19 hastalarına bakım veren yoğun bakım hemşirelerinin deneyimlerinin incelenmesi amaçlanmıştır.

Yöntemler: Bu çalışma tematik analiz içeren tanımlayıcı fenomenolojik bir çalışmadır. Türkiye'nin kuzeybatısında 88 yatak kapasiteli toplam yedi yoğun bakım ünitesine sahip bir pandemi hastanesinde 10 yoğun bakım hemşiresi ile yarı yapılandırılmış görüşmeler yapılmıştır.

Bulgular: Analiz sonucunda beş ana tema ve 13 alt tema ortaya çıktı. Ana temalar; profesyonel ilişkiler, çalışma koşulları, güvenlik, hemşirelik bakımı ve psikolojik boyut olarak belirlenmiştir.

Sonuç: Yoğun bakım hemşireleri Yoğun bakım hemşireleri COVID-19 pandemisi sırasında yoğun duygusal yük, bilinmezlik korkusu, yetersizlik algısı ve artan iş yükü yaşamaktadır. Hemşirelik bakımı, hastalığın seyirindeki değişikliklerden ve izolasyondan etkilenmiştir.

Anahtar kelimeler: COVID-19, deneyim, yoğun bakım hemşireliği, pandemi, nitel araştırma

Introduction

Coronavirus (COVID-19) outbreak started in Wuhan, China in December 2019 and quickly spread all over the world. In parallel with the occurrence of the cases, the treatment and caring of the individuals in intensive care units were required due to Acute Respiratory Distress Syndrome (ARDS) or multiorgan failure (1). Intensive care nurses, who assumed important responsibilities in combating the pandemic, undertook the care of critical patients by taking the most serious risks. During the pandemic, the experiences all over the world and in our country have shown that there is a problem in the recruitment of ICU nurses in terms of quality and quantity to meet the increased need (2). This problem caused ICU nurses to work uninterruptedly for extended working hours. Also, due to the lack of knowledge about the management of the disease, inexperience in the management of the pandemic and the uncertainty in the course of the disease, intensive care units turned into complicated environments to work in (3,4,5). Nurses assigned

from other units had to take care of the ICU patients without specialized training due to the lack of suitable environment and/or resources to provide orientation training, which brought concerns about the quality of care (3,5,6). In addition, problems in the supply of personal protective equipment (PPE) caused nurses to become infected or to experience serious concern for themselves, their family and their social environment, increasing the burden on nurses both physiologically and psychologically (2,7-9). It was clear that ICU nurses undertook critical roles in managing the pandemic period. In this period, it was vital to make optimal planning of economic and health resources, taking into account the needs and experiences of intensive care nurses who would manage them in order to use the resources in the ICU effectively (4,5,10). Therefore, in this study, we aimed to investigate the experiences of intensive care nurses who cared for COVID-19 patients during the pandemic period.

Method

Study design, setting and sample

In this study, descriptive phenomenological design and thematic analysis method have been adopted. The study was conducted between December 2020-February 2021 on ICU nurses of a pandemic hospital in the northwest of Türkiye. The hospital has a total of 7 intensive care units having a capacity of 88 beds. A total of 160 ICU nurses work in the hospital. However, during the peak periods of the pandemic, nurses were temporarily recruited from other units of the hospital to the ICU. In the stable period of the pandemic, while the nurse-patient ratio was 1:2, during the peak, this ratio increased up to 1:4 from time to time. Purposive and snowball sampling methods were used in the sample of the study. The saturation point guides the sample size in qualitative research. In this study, when the data reaches the saturation point, when new information does not emerge and starts to repeat, the data collection process is terminated and the reporting process begins.¹¹ In this study, the data were saturated with 10 ICU nurses. Study inclusion criteria were the following: [1] agreeing to participate in the study, [2] working full-time in the ICU also in the prepandemic period, [3] providing full-time care for patients with COVID-19 in the ICU, [4] nurses who did not have a medical leave or regular leave at the time of the study.

Data collection

The first of these data collection methods are individual interview forms. A semistructured interview form based on open-ended questions was prepared in order to collect the opinions of the participants. The semi-structured form consists of the following questions: [1] Could you tell us about your experience with a patient who was treated in the ICU with the diagnosis of COVID-19? [2] What did you think while caring for your patient diagnosed with COVID-19? [3] How did you feel on the first day while caring for your patient diagnosed with COVID-19? [4] How do you feel now while caring for your patient with COVID-19? [5] What can be done to provide better quality and effective care for your patient diagnosed with COVID19? Also probing questions were used: [1] What were the things that made you think of these? Can you elaborate? [2] What were the things that made you feel this? Can you elaborate? [3] Can you please give an example? The second data collection method in the study is observation notes. Except for the interviews with the participants, the way they behaved was recorded using the note-taking method.

A pilot study was conducted with two nurses working in the ICU, where only patients with COVID-19 were treated in accordance with the inclusion criteria of the study. Understanding of the purpose of the research by the nurse participating in the pilot study, the suitability of the interview method and the intelligibility of the semi-structured interview questions were evaluated by the researcher. It was concluded that the interview method and data collection forms were appropriate

and there was no need for correction. Also, the data collected through the pilot study were not included in the study.

The interviews were made with the participants at the specified time using the video conference method and recorded. The interviews were conducted by the researcher in the natural environment of the participants. In-depth interviews were conducted with the participants in their own quiet and calm home environments. In addition, the researcher noted the speaking and behavior of the participants by using the note-taking method. Interviews lasted around 40 minutes (ranging from 32 to 53 minutes).

Data analysis

In the analysis of the data, six stages of thematic analysis described by Braun & Clarke (2006) were used.¹¹ These stages are [1] the researcher's familiarity with the data, [2] the creation of the first codes, [3] the search for the themes, [4] the review of the themes, [5] the identification and naming of the themes, [6] and the preparation of the report (11). While introducing the nurses, they are shown with the letter "N" and specified by numbers. The video recordings and notes collected after the interviews were analyzed by the two researchers independently and then compared with each other.

Validity and reliability

Validity and reliability of qualitative research are accomplished with applicability, reliability, consistency and verifiability (13). In this study, integrity was achieved by controlling the relationship between the themes and sub-themes obtained for reliability. After the interviews with the participants were completed, the video recordings were transcribed word by word. For applicability, the purposive sampling method was used and homogeneity was taken into consideration. For consistency, the data were analyzed independently by two researchers. The coding process was repeated more than once by the researchers, and a consensus was reached by exchanging ideas about the suitability of the codes obtained from the data. For verification, the semi-structured interview form and the final version of the theming were evaluated by two researchers specialized in the field.

Ethical considerations

The study was approved by the ethics committee of a university in Türkiye (approval number: E-78977401-050.02.04-32091) and obtained from the Ministry of Health of the Republic of Türkiye. Before starting the interviews, after explaining the purpose and method of the study to the participants, written consents were obtained from those who voluntarily agreed to participate in the study. Verbal consent was obtained from all interviewees for video recording.

Findings

Some characteristics of ICU nurses are shown in Table 1. The nurses' age range is between 23 and 46, intensive care experiences vary between 1 and 15

years. As a result of the analysis of the data, 5 main themes and 13 sub-themes were found. The main themes are professional relations, working conditions, safety, nursing care and psychological aspect.

Nursing Care

Patient isolation

The nurses stated that the patients being in a closed and isolated environment was a source of stress in itself and that it even affected the respiratory functions by increasing their anxiety. Therefore, they stated that the course of the disease was negatively affected, and they had difficulty in providing care.

..... entering a closed environment such as intensive care, they have not entered before. After staying for a day or two, delirium and psychological problems were observed. They are starting to hallucinate, it is very difficult to deal with all these.... N5

.....Patients cannot communicate with anyone and cannot meet their relatives. They are barely breathing and facing this situation alone. Naturally, their anxiety increases. When they have anxiety, their saturation drops. They do not recover and even get worse. But when they relax, they can breathe more easily N1

Customized care

Nurses stated that caring for intensive care patients and caring for Covid patients are completely different experiences. In Covid cases, they stated that they have a responsibility to provide psychological support to patients and they are struggling with this.

.....There is a lot of difference between Covid nursing and intensive care nursing. Since they cannot contact anyone they need, they demand psychological support from us. They want to talk to us when we come in. This is challenging to me, back then and right now....N10

..... Caring for a Covid patient is completely different from caring for a regular ICU patient.....On the one hand, you have a patient that you lose, on the other hand, a patient who needs your attention, you have to answer the questions of that patient and provide psychological support while you have not been able to get rid of the stress of the lost patient. That still challenges me, frankly.... N4

Change in the course of the disease

The nurses stated that the prognosis of the disease changed to a faster course and they started to lose patients at a young age.

..... the patient profile has changed. We are losing patients at a very young ageSudden deaths occur too often. While the patient is solving crossword puzzles one day, the next day he suddenly gets worse. We almost lose one patient a day N7

.... at first, we could take them to the service, even though a few patients. Now the course of the disease is progressing very fast it is progressing so fast that we lose the patient we talked two days ago N8

Security

Self-protection

The nurses stated that they had difficulty in protecting themselves in cases where they needed to intervene urgently, and they suddenly entered the patient rooms as a reflex, all they thought was to intervene and help patients as soon as possible, and then they were concerned about whether the disease was transmitted to them.

.....sometimes we had to enter the patient's room rapidly for urgent intervention. In this case, you enter half-dressed. Because this is a reflex. At that time you cannot properly think. But then the anxiety emerges, thinking that this has transmitted to me as well.... N6

.... in an emergency or when the patient is troubled, you enter the room half-dressed. A matter of life and death after all. Because this is a reflex and you do not want to waste time. At that time, you think nothing. All you can think of is to save that patient as soon as possible N9

Protecting others

The nurses stated that they thought of their relatives more than themselves and they did not want to be the ones transmitting the disease.

..... I had a lot of worries about infecting my family rather than getting sick myself.... N4

.... I will take my precaution, but I am still scared of getting infected. First of all, I have children, a family. It would be devastating for me to transmit a virus like this to them.... N3

Working conditions

Material supply and use

The nurses stated that they did not have difficulty in finding personal protective equipment, but wearing those was time-consuming, increasing the workload and irritating their skin and was difficult to work with.

...our equipment is robust, but when you wear those for a long time, you get marks and rashes on your face and nose. You feel suffocated in those clothes.... N7

....it is difficult to put on and take off the overalls frequently. It is a separate workload for you on its own.... N6

Increased workload

The nurses stated that the responsibility of providing psychological support in Covid nursing, putting on and taking off personal protective equipment and the colleagues not having intensive care experience increased their workload.

.....Many nurses and doctors came for support during this period. We were renewed as a team. Therefore, our workload has increased. Working with someone who knows the job is quite different from working with someone who does not. You take more responsibility.... N5

..... In Covid, you have to provide psychological support to the patients, this is a separate workload.... N2

.....patients suddenly get worse and we cannot enter without protective equipment. Because the guides state that. This is also not practical to apply. Too much time-consuming. Your workload increases mostly due to this reason.... N8

Job satisfaction

The nurses stated that they were not sure about their nursing activities because the prognosis of the disease was unclear, and they did not get satisfaction with their work.

.....it used to be very satisfying for us to have a recovering or discharging patient. Now, even if the patient's condition improves, there is always a possibility that he will get worse. We ask each other if they can tolerate it without any complications? Did they get any better? There is no satisfaction right now.... N1

Professional relationship

Inter-nurses support

They stated that the support between the nurses was robust, the previous conflicts of the past were no longer existent, they were focused on a common goal, and therefore the burden on them was eased off and they acted with solidarity.

.....we used to quarrel with friends, even over small things. Now, all we are thinking is that how we can help our patients..... You see nothing but the sick.... N10

..... people understanding each other, laughing together when we bring a patient to the service, crying together when a patient is lost, approaching with understanding... I was very lucky in this period... A team with conscience and work knowledge helps you to ease off your workload and emotional burden....N5

Conflict in the team

It was stated that in some cases in which patients need to be intervened with, they could not get enough support from the physicians and sometimes because of this, there were conflicts within the team.

.....when the patient is agitated, we do our best, but the physician does not want to be involved in this process. Physicians do not want to enter the room very much, but they do not want us to leave the room, on the contrary. Sometimes arguments take place for this reason.... N2

Psychological aspect

Emotional burden

The nurses stated that both themselves and the patients were under heavy emotional burden during this period. They stated that nurses formed an emotional connection with the patients, and it was an intense emotional burden for them to watch their

breathing efforts for whom they cared and to lose with whom they were in touch every day, while patients' concerns about their families were a heavy emotional burden in itself.

...the patients were so desperate. On the one hand, they worried about themselves. They're trying to breathe. On the other hand, they are worried that they are transmitting the disease. This is a huge burden on the patients.... N4

.....sometimes patients talk about things they have not done or wanted to do in life as if they were confessing. They share their most sincere feelings and thoughts with you. When you go to the next shift, you cannot see that patient again. Psychologically a very tough, devastating period (Crying).....N3

.....most of the patients dispatched to us are unconscious patients and we do not communicate verbally. You communicate with someone, have them eat, and you lose them. It is very difficult to get this out of your mind. It's been 3 months, yet still in my mind.... N7

Fear of the unknown

The nurses stated that they were afraid of the unknown rather than the fear of contagion and not knowing what to do in patient care made them feel anxious.

...we did not know how to approach the patient because we did not know the nature of the disease. The data we had were insufficient. Will I be able to provide the patient with the correct application and appropriate care? That scared me even more. People are most afraid of what they do not know.... N8

.....we are dealing with a positive science. But the data we have are insufficient. Since we did not know the nature of the disease, I did not know how to approach the patient. I was afraid. This is not the fear of contagion, but the fear of the unknown.... N6

Perception of insufficiency-helplessness

The nurses stated that they observed that the nursing care they applied with their existing knowledge did not give positive results for the patients and that they felt inadequate and helpless. For this reason, they stated that they blamed themselves from time to time.

.....we all have a sense of inadequacy. I wonder if I am not doing enough? There are times when I blame myself for doing something missing. But even more desperation emerges, we did our best but we could not save the patient.... N1

.....you are desperate, you cannot do anything. You have applied all the treatments directed by the doctor, you have done everything you could, but it does not help.... I wonder if I did not do enough. (eyes filled with tears). Did I do something incomplete.... N5

.....You've done it a thousand times and it worked. You know, you do it a thousand more times and it does not work this time. There is nothing we can do to save them (his voice trembles). You say I did something wrong somewhere....N9

Table 1. Nurses characteristics

Nurse number	Gender	Age (yr)	Education level	Work experience (yr)	ICU experience (yr)	Marital status	Position
N1	Male	25	Bachelor	2	1	Single	Nurse
N2	Female	36	Bachelor	11	8	Married	Nurse
N3	Female	46	Bachelor	22	6	Married	Nurse
N4	Female	32	Bachelor	15	7	Married	Nurse
N5	Female	35	Bachelor	12	10	Single	Nurse
N6	Female	41	Bachelor	18	15	Married	Nurse
N7	Female	37	Bachelor	14	11	Married	Nurse
N8	Male	35	Bachelor	8	4	Married	Nurse
N9	Female	25	Bachelor	3	2	Single	Nurse
N10	Male	33	Bachelor	10	5	Married	Nurse

Discussion

In this study, which aims to investigate the experiences of ICU nurses during the pandemic period, a total of five aspects consisting of professional relations, working conditions, security, nursing care and psychological aspect were determined. Due to the highly contagious nature of the disease, the use of personal protective equipment such as overalls, masks, goggles and gloves in the caring process has led to difficulties in maintaining the care of the patient, ensuring communication in the team and meeting the physiological needs of health professionals (14-16). In addition, existing units were closed to meet the hospital and ICU needs of COVID-19 patients, nurses were withdrawn to the pandemic units, emergency services and ICUs during the process, causing a serious increase in circulation in these units (6,9,10).

In addition to the lack of intensive care nurses, the assignment of inexperienced nurses to the units without sufficient time and training opportunities to have the know-how to work effectively in those special units such as ICUs, has led to an increase in the workload in ICUs in parallel with all these experiences (5,7,10). As emphasized by the nurses in this study, the increase in the workload and the problems experienced in PPE are in line with the findings of the studies in the literature (7,17,17,19). The qualitative findings revealed that these experiences are mutual for nurses at the international level. In this study, it was found that there were conflicts within the team from time to time during the patient care process. This result differed from the results of the study of González-Gil et al (3) Possible explanations for this difference; organizational problems in crisis management because of Türkiye's unprepared approach to the pandemic and/or health services affect communication and cooperation

within the team, there are organizational shortcomings in the presentation in a negative way, the fear of being infected at a high level can be experienced between health professionals (4,9,10).

Another interesting finding in this study is that the increase in nurses' support of each other. In line with our study findings, Kim et al. also stated that professional camaraderie was high among the nurses working in the Middle East Respiratory Syndrome, similar to the Coronavirus outbreak (20). Sudden changes in the prognosis of the disease, sharing knowledge, experience and workload for patient care may have reinforced Professional collegiality(21).

It has been stated in many studies that uncertainties during the pandemic period cause various psychological fluctuations among nurse (22-25). In this study, psychological issues such as emotional burden experienced by nurses, fear of the unknown, and perception of inadequacy/helplessness support the findings of the past studies (26-28). In addition, as noted in previous studies, many nurses expressed their inability to care for patients affected by an emerging infectious disease (8,29, 30). This suggests that these feelings are common in times of epidemics. Also, due to the unexpected nature of the pandemic and the unpreparedness for the pandemic, nurses suddenly starting to care for COVID-19 patients without proper training may have experienced these feelings psychologically.

One of the most important experiences perceived by nurses in this study is that patient isolation in ICU causes difficulties in the maintenance of care for both the patient and the caring nurse (19,28). Similarly, Dicker et al. (2020) and Leng et al. (2021) stated in their studies that the emotional reflection of the isolation process not only increased the perceived stress level of the healthcare professionals but also of the patients (24,31). Abad et al. (2010) stated in their study that isolation had a negative impact on the psychological well-being of the patients (32). Gao et al. (2020) and Ou et al. (2021) emphasized in their studies that working in the isolation section was challenging for nurses psychologically and physiologically (19,33). It is foreseeable that stress and traumatic experiences caused by the pandemic have negative consequences on psychological health. Limitations

The present study has some limitations: Initially, interviews were conducted only with nurses who were actively working with patient care, so the experiences of ICU nurses in executive positions are unknown. Secondly, the inclusion of full-time nurses working in the ICU in the pre-pandemic period, so the experiences of nurses who came for support from different units during the pandemic period are not included in this study. Including this group in the interviews in future studies can enrich the thematic analysis. Thirdly, the study was limited to one center. Future studies will increase diversity by including ICU nurses working in different centers.

Conclusion

Our study results clearly show that both patients and ICU nurses were psychologically challenged during the pandemic period. From the perspective of the patients, the stress caused by staying in isolation negatively affected their disease and they needed more psychological support while facing their condition. From the point of view of ICU nurses, they had difficulties in protecting themselves from contagion while providing care for the patient and experienced the concern of infecting their relatives. As with the patients, nurses who had psychological difficulties experienced a sense of inadequacy and helplessness while coping with an unfamiliar disease, and they were also under emotional stress in the face of changes in the prognosis of the disease and sudden deaths and stated that they did not get satisfaction from their work as much as before. At the same time, the necessity of providing psychological support, using PPE and working with inexperienced colleagues increased the workload of intensive care nurses.

Author Contributions

Conception: D.K., Data Collection and Processing: D.K., E.K., Design: D.K., E.K., Supervision: D.K., Analysis and Interpretation: D.K., E.K., Literature Review: D.K., E.K., Writer: D.K., E.K., Critical Review: D.K.

References

- Rello J, Belliato M, Dimopoulos MA, et al. Update in COVID-19 in the intensive care unit from the 2020 HELLENIC Athens International symposium. *Anaesth Crit Care Pain Med.* 2020 Dec;39(6):723-730.
- International Council of Nurses (2021, March, 15). International Council of Nurses COVID-19 update. <https://www.icn.ch/sites/default/files/inlinenfiles/ICN%20COVID19%20update%20report%20FINAL.pdf>.
- González-Gil MT, González-Blázquez C, Parro-Moreno AI, et al. Nurses' perceptions and demands regarding COVID-19 care delivery in critical care units and hospital emergency services. *Intensive Crit Care Nurs.* 2021 Feb;62:102966.
- Kiraner, E., Terzi B. Intensive care nursing in Covid-19 pandemic process. [Covid-19 Pandemi Sürecinde Yoğun Bakım Hemşireliği]. *Yoğun Bakım Hemşireliği Dergisi.* 2021; 24(Suppl.1):83-88. <https://dergipark.org.tr/tr/download/article-file/1136959>.
- Moradi Y, Baghaei R, Hosseingholipour K, Mollazadeh F. Challenges experienced by ICU nurses throughout the provision of care for COVID-19 patients: A qualitative study. *J Nurs Manag.* 2021 Jul;29(5):1159-1168.
- Danielis M, Peresson L, Piani T, et al. Nurses' experiences of being recruited and transferred to a new sub-intensive care unit devoted to COVID-19 patients. *J Nurs Manag.* 2021 Jul;29(5):1149-1158.
- Fernández-Castillo RJ, González-Caro MD, Fernández-García E, Porcel-Gálvez AM, Garnacho-Montero J. Intensive care nurses' experiences during the COVID-19 pandemic: A qualitative study. *Nurs Crit Care.* 2021 Sep;26(5):397-406.
- Galehdar N, Kamran A, Toulabi T, Heydari H. Exploring nurses' experiences of psychological distress during care of patients with COVID-19: a qualitative study. *BMC Psychiatry.* 2020 Oct 6;20(1):489.
- Senol Celik, S., Atlı Ozbas, A., Celik, B., Karahan, A., Bulut, H., Koc, G., Cevik Aydın, F., Ozdemir Ozleyen, C. (COVID 19 Pandemi Süreci: Türk Hemşireler Derneği. [COVID 19 Pandemic Process: Turkish Nurses Association]. *HEAD.* 2021; 17(3):279-83. <https://doi.org/10.5222/KUHEAD.2020.34603>
- Kiraner, E., Turkmen, E., Kebapçı, A., Bozkurt, G. Türk yoğun bakım hemşirelerinin COVID-19 salgınındaki deneyimleri. [Experiences of Turkish intensive care nurses during the COVID-19 outbreak]. *HEAD.* 2021; 17(3):284-6.
- Morse JM. Critical Analysis of Strategies for Determining Rigor in Qualitative Inquiry. *Qual Health Res.* 2015 Sep;25(9):1212-22.
- Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology.* 2006; 3(2):77-101.
- Marshall C, Rossman GB. *Designing Qualitative Research.* Sixth edition. Thousand Oaks, CA: Sage; 2016
- 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 Jun;8(6):e790-e798.
- 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 Aug;59:102876.
- Schroeder K, Norful AA, Travers J, Aliyu S. Nursing perspectives on care delivery during the early stages of the covid-19 pandemic: A qualitative study. *Int J Nurs Stud Adv.* 2020 Nov;2:100006.
- Catania G, Zanini M, Hayter M, et al. Lessons from Italian front-line nurses' experiences during the COVID-19 pandemic: A qualitative descriptive study. *J Nurs Manag.* 2021 Apr;29(3):404-411.
- Eftekhari Ardebili M, Naserbakht M, Bernstein C, Alazmani-Noodeh F, Hakimi H, Ranjbar H. Healthcare providers experience of working during the COVID-19 pandemic: A qualitative study. *Am J Infect Control.* 2021 May;49(5):547-554.
- Eftekhari Ardebili M, Naserbakht M, Bernstein C, Alazmani-Noodeh F, Hakimi H, Ranjbar H. Healthcare providers experience of working during the COVID-19 pandemic: A qualitative study. *Am J Infect Control.* 2021 May;49(5):547-554.
- Kim Y. Nurses' experiences of care for patients with Middle East respiratory syndrome-coronavirus in South Korea. *Am J Infect Control.* 2018 Jul;46(7):781-787.
- 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 Nov;111:103637.
- Arnetz JE, Goetz CM, Arnetz BB, Arble E. Nurse Reports of Stressful Situations during the COVID-19 Pandemic: Qualitative Analysis of Survey Responses. *Int J Environ Res Public Health.* 2020 Nov 3;17(21):8126.
- Crowe S, Howard AF, Vanderspank-Wright B, Gillis P, et al. The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study. *Intensive Crit Care Nurs.* 2021 Apr;63:102999.
- Leng M, Wei L, Shi X, et al. Mental distress and influencing factors in nurses caring for patients with COVID-19. *Nurs Crit Care.* 2021 Mar;26(2):94-101.
- Zhang Y, Wei L, Li H, et al. The Psychological Change Process of Frontline Nurses Caring for Patients with COVID-19 during Its Outbreak. *Issues Ment Health Nurs.* 2020 Jun;41(6):525-530.
- Lissoni B, Del Negro S, Brioschi P, et al. Promoting resilience in the acute phase of the COVID-19 pandemic: Psychological interventions for intensive care unit (ICU) clinicians and family members. *Psychol Trauma.* 2020 Aug;12(S1):S105-S107.
- Shen X, Zou X, Zhong X, Yan J, Li L. Psychological stress of ICU nurses in the time of COVID-19. *Crit Care.* 2020 May 6;24(1):200.
- Sun N, Wei L, Shi S, Jiao D, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. *Am J Infect Control.* 2020 Jun;48(6):592-598.
- Holroyd E, McNaught C. The SARS crisis: reflections of Hong Kong nurses. *Int Nurs Rev.* 2008 Mar;55(1):27-33.
- Lam KK, Hung SY. Perceptions of emergency nurses during the human swine influenza outbreak: a qualitative study. *Int Emerg Nurs.* 2013 Oct;21(4):240-6.
- Dicker D, Kournos T, Marcovicu D, Golan R. Do we know when to end isolation of persons affected with COVID-19? *Eur J Intern Med.* 2020 Jul;77:144-146.
- Abad C, Fearday A, Safdar N. Adverse effects of isolation in hospitalised patients: a systematic review. *J Hosp Infect.* 2010 Oct;76(2):97-102.
- Ou X, Chen Y, Liang Z, Wen S, Li S, Chen Y. Resilience of nurses in isolation wards during the COVID-19 pandemic: a cross-sectional study. *Psychol Health Med.* 2021 Jan;26(1):98-106.