

## Partners in Care: Nurses experience During COVID-19

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### Abstract

**Aim:** The COVID-19 pandemic has had a profound influence on global society, and the disease's rapid spread has put a strain on the whole health-care system. In the prevention of both primary and secondary infectious illnesses, nursing plays a critical role. The study's goal was to learn about the experiences of nurses in Najran who were caring for Covid-19-affected patients. The research was conducted in the form of a descriptive phenomenology. **Methods:** The study's participants were purposefully recruited from the target population from the three focus groups that offered direct care to COVID -19 patients, thirty samples were chosen. Data was collected through direct interviews, which included generic questions followed by open-ended questions. The data was analyzed using Collazo's approach for analyzing transcripts. **Results:** The investigation's conclusions revealed three major themes. Important aspects include the psychological setting, the care core context, and the nursing challenges context. The first context emphasized nurses' fear, anxiety, stress, and pressure; the second context emphasized double responsibilities, dealing with infected and non-infected patients, changing the nurse's role, and the patient's psychological reliance; and the third context emphasized a lack of prior knowledge, working in unfamiliar environments, and a shortage of manpower; and the fourth context emphasized a lack of prior knowledge, working in unfamiliar environments, and a shortage of manpower; and the fourth context emphasized. **Conclusion:** According to the findings of this study, nurses working in Covid -19 units, emergency departments, and intensive care units were assigned to provide treatment for a variety of conditions. Nurses continue to provide outstanding patient care despite these limitations. Nurses working in the Covid -19 units, emergency departments, and intensive care units were assigned to offer treatment with a variety of problems, according to the findings of this study. Despite these challenges, nurses continue to offer excellent patient care.

**Keywords:** Partners in care, COVID-19, pandemic, nurses, experiences.

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## INTRODUCTION

The COVID-19 pandemic wreaked havoc on the worldwide community [1]. The disease spread quickly, putting a burden on the whole health-care system. Fever clinics were inundated with suspected and confirmed cases during the early stages of the pandemic, therefore patients with COVID-19 symptoms were directed to them [2]. General wards were quickly transformed to isolation wards, and medical personnel with no prior expertise treating infectious disorders came in to assist. COVID-19 can produce a variety of symptoms, ranging from asymptomatic to a significant respiratory infection that can lead to pneumonia. The very ill patients were given supportive treatment [3].

Nursing is an important player in the prevention of both primary and secondary infectious diseases, and it is often regarded as the most dedicated profession in the prevention of diseases and the reduction of pain during and after treatment of any illness, including the COVID-19 [4]. Nurses labored around the clock to deal with the inflow of COVID -19 cases as the outbreak spread [5]. Nurses used their specialized knowledge and ability to deliver the best possible treatment during such a health crisis [6]. Patients with Covid -19 should be isolated in a negative pressure room and have their basic needs provided, such as food, water, and medications, as well as be reassured about their emotional and psychological needs [7]. Nurses are at the heart of each pandemic

response, including the COVID -19 outbreak [8]. One of the most demanding duties is providing high-quality nursing care to patients [9]. Nurses are the "secure hook" that connects all of the interprofessional teams, and they have been exposed to a variety of health dangers, including mortality [10].

Nurses have had substantial professional, social, and psychological issues as a result of COVID-19. Care delivery and management have been hampered by the fast changing environment, the rapid creation of new infection control standards, and the need to alter care delivery in unique ways. Individuals in nurse management roles are put under a lot of stress by the constant flow of new information from the government and other national health agencies, which mandates rapid adjustments in treatment techniques and policies [11]. A scarcity of medical supplies, staff confusion within the treatment system, the unpredictable nature of the illness, social isolation, and the virus's widespread spread all jeopardized the quality of nursing care [12].

Nurses were dealing with work stress, a daily influx of patients into hospitals, insufficient hospital capacity, and a high nurse-to-patient ratio, all of which made the COVID -19 phenomenon of care challenging [13]. Throughout the outbreak, every single nurse supported and advocated for the health of the individual. As a result, the study looked into the experiences of nurses caring for COVID -19 patients in the early stages of the outbreak in order to better understand the obstacles that nurses encounter.

## **METHODS**

### **Study Design**

Exploratory research to understand this novel phenomenon is urgently needed due to the unusual circumstances presented by COVID-19. The purpose of this study was to look into the experiences of front-line nurses in Najran during the COVID-19 pandemic, with a particular focus on nursing challenges. The goal of this study was to explore the experiences of Najran front-line nurses during the COVID-19 pandemic. Qualitative research is well suited to this type of research, so a qualitative descriptive study was designed to address the goal of this study: to explore the experiences of Najran front-line nurses during the COVID-19 pandemic [14]. Qualitative research is holistic in nature, allowing phenomena to be studied from an individual's perspective in the context of events, as well as providing detailed descriptions that help readers appreciate reality [15].

### **Study Setting**

The study was conducted at Saudi Arabia's King Khalid Hospital in Najran. For this qualitative descriptive study, participants worked in a variety of acute care hospital settings, including intensive care, emergency departments, and general wards. COVID-19-positive patients were admitted to ordinary wards,

whereas critically ill patients were transferred to the intensive care unit. The hospital, which has a 40-bed intensive care unit with modern equipment and acts as a referral center for the Southern Region.

### **Participants**

Participants were registered nurses from Najran who had experience working with COVID-19 patients in a variety of settings at King Khalid Hospital. The following were the inclusion criteria: (a) work as a front-line nurse for at least 4 weeks, (b) have direct experience caring for COVID-19 patients, and (c) agree to participate in the study. Each of the three focus groups that provided direct care to patients in the emergency department (n=10), intensive care unit (n=10), and general wards (n=10) was given thirty samples. Early in the research process, an email was sent to the appropriate units requesting background information, and a 10-minute informal study briefing was held. Participants were informed about the study's goal and provided informed consent prior to the interview procedure. They were also assured that the information gathered would be anonymised and treated in confidence.

### **Ethical considerations**

The King Khalid Hospital's Institutional Review Board authorized the study protocol IRB registration number with KACST, KSA: H-11-N-081, which was then registered with the Directorate of General Health Affairs in Najran. Nurses were given information about the study before deciding whether or not to take part, and participation was completely voluntary. Any identifiable information was removed from the data before processing to ensure confidentiality and anonymity.

### **DATA COLLECTION**

Direct interviews were used to obtain data, which included broad questions followed by open-ended questions. Could you please tell me about your experience caring for COVID-19 patients? What were your main worries while working with COVID-19 patients? What have been the most difficult problems you've faced in your units? As a front-liner, what impressed you the most? Follow-up questions were utilized to get more specific details about their experience. The researcher facilitated the interview, which took place in person. The interviews were all audio-recorded, and each one lasted 45–60 minutes. The interviewers transcribed the audio recordings verbatim and double-checked for accuracy.

### **DATA ANALYSIS**

Two researchers employed Colaizzi's (1978) seven-step technique with regular input from all members of the research team to examine and determine the themes of nurses' experiences as they relate to nursing challenges. This qualitative analytical approach is used by researchers to uncover coded

characteristics in data, iteratively develop explanatory and comprehensive themes, and finally provide a complete holistic thematic framework of the phenomenon under consideration. As the analysis continued, members of the study team disputed the themes and topics that were eventually developed in order to ensure agreement and improve rigor. The inclusion of participant quotes under their respective theme areas increased the reliability and consistency of the analyses. The seven steps in this method are listed below. (1) reading the participant descriptions several times, (2) fully comprehending and identifying the statement, (3) articulating the meaning of the words, and (4) affirming the importance of the topics (5) Organizing the themes into clusters; (6) developing the

topic's comprehensive issues; (7) writing the themes' complete descriptions (15).

## RESULTS

The study enlisted the participation of 30 nurses. All of the participants were involved in ongoing Covid-19 care at various times and in varied locations. With four men, the majority of the participants (n=26) were female. There were eight emergency department nurses, nine intensive care unit nurses, ten isolation unit nurses, two head nurses, and one supervisor. The interviews lasted 45 to 60 minutes on average. The descriptive phenomenological assessment of the nurse's experience caring for COVID-19 patients revealed three main elements.

**Table-1: Main Concept and sub-themes**

Main Concept	Sub Themes
The Psychological Context	Fear and Anxiety
	Stress and Pressure
	Heavy nursing workforce
Care Cure Core Context	Double responsibilities
	Managing patients who are both infected and non-infected
	Transforming the nurse's role
	Psychological reliance of patients
Covid-19 Nursing Challenges	Inadequate prior knowledge and experience
	Working in an unknown situation
	Shortage of manpower
	Personal protection equipment (PPE) challenges

### The Psychological Context – (Concept 1)

The initial thought subject serves as a psychological framework for the nurses' extreme mental demands during COVID-19. In terms of emotional endurance in the profession, nurses are well-trained. COVID-19, on the other hand, is based on a new set of criteria, and the strain on caregivers in a variety of situations to address several life-or-death emergencies at the same time, placing one's life in jeopardy, creates a true sense of danger. Throughout the interview, almost every nurse had a sense of dread, fear, tension, and a large nursing workforce.

#### Fear and Anxiety

The nurses were concerned about the pandemic situation. The majority of nurses were particularly concerned about the disease's rapid spread and the growing number of confirmed cases. All of these concerns were likely to cause psychological pressure, leading to worry and anxiety. When dealing with a serious illness that demands hospitalization, they should be on the front lines of the patient journey [16].

“We initially confused it for MERSCOV, but it turned out to be a different virus, and we were frightened of getting sick”. (N3)

“At first, I was concerned about the continual exposure and was afraid of contracting COVID-19, as were many of my colleagues”. (N7)

“At first, I was apprehensive about the situation. I'm terrified of what will happen to me and how COVID-19 will influence me”. (N2)

“Many dyspnea patients required high-flow oxygen therapy and ventilators, which are both beyond my capabilities, resulting in terrifying and stressful situations”. (N23).

#### Stress and Pressure

Despite the fact that Covid-19 was an unknown illness, nurses were dedicated to providing the best possible care to the patients. COVID-19 has an adverse effect on the lives of nurses, their families, and their busy work settings all around the world [17]. Approximately 22 nurses expressed their stress, high pressure, and annoyance as a result of the worsening pandemic scenario during the interviews. The majority of their quality work-life was impacted by long working hours, a lack of manpower, and insufficient supplies of protective equipment.

“While caring for the first two positive patients, I was upset by their condition and continuous desaturation.” (N12)

“Working with severely ill patients exhausts and stresses me out, yet it is my obligation to care for the patient no matter what happens”. (N4)

“The bulk of my coworkers are optimistic, and several patients are in serious condition. As a result, I was apprehensive”. (N6)

“I had to deal with 4 to 5 RRT (Rapid Response Team) patients every day when working with severely ill patients, which was strange and frustrating”. (N5)

“Because I was stressed and didn't have my uniform, my chief nurse urged me to remain on for one more night shift”. (N8)

### Heavy nursing workforce

The unexpected covid increased nursing workload, allowing patients to get humanistic care [18]. COVID-19 patients necessitated specific cleaning techniques, distinct dedicated places, and a larger personnel in order to prevent future transmission [19].

“I work in the critical care unit, which is the final line of defense when it comes to a patient's life or death”. (N21)

“Normally, I work 9.5 hours each day, but my shift was extended to 12 hours during Covid-19”.(N13)

“I've raised my working hours to 16 hours because the majority of my patients were dangerously unwell. Every day, I only get 4 hours of sleep”.(N20)

“I've had this N95 mask on for 14 hours and am sick of it”.(N17)

“I don't wear PPEs because I spend the most of my time on invasive and arousal-inducing therapies.(N18)”

“I want to help my patients and don't mind getting infected while doing so.”(N27)

### Care cure basic context -Concept 2

The care cure core setting was the theme's second concept. In any outbreak, nurses are always the first responders [20]. The majority of the nurses in this context highlighted their dedication to doing the noble work of giving bodily care to the patients. Nearly half of the nurses indicated they perform all of the interventions in treating the Covid-19 patient and that they play a critical role in soothing the patient throughout the disease's stages.

### Double responsibilities

Nurses voiced anxiety about their obligations during the COVID-19 trials. Many normal wards were converted to intensive care units and isolation units due to the influx of patients. Aside from ordinary duties, many of the patients were seriously ill and required invasive and non-invasive operations, putting the nurses' physical and mental health at danger.

“I'm quite stressed, and even while I'm sleeping, I can hear ventilators”(N15).

“At times, I believe I don't want to get close to the patients, but I subsequently regret it. I am reminded of my pledge on a regular basis and become self-motivated as a result” (N19).

“I've been away from my 6-month-old baby for the past three weeks due to my work schedule. (N20)”.

“I've decided to start my married life after a 6-year battle. However, I've decided to postpone my wedding due to a forecasted -19” (N10).

“Everyone avoids their responsibilities, and we then infer that if something goes wrong, God will provide for us because we have chosen a profession” (N7).

### Managing patients who are both infected and non-infected

Nurses voiced concerns about dealing with infected and non-infected patients. In the emergency room, both infected and non-infected cases were mixed together. The triage area was divided into two paths when the number of positive cases began to rise. Separate fever clinics were established to control the spread of infection, and nurses were divided into two groups. In a quarantine, the nurses caring for positive patients had been on duty for 12 hours every day for 15 days. The majority of the nurses were concerned about their livelihood and felt terrified, especially when they were isolated and separated from their loved ones. As a result, nurses have had to cope with a variety of situations.

“Because I was frightened of becoming infected and infecting my family members, I didn't visit my family for more than 45 days” (N29).

“I saw myself as a positive patient after completing my 14-day front-line duty and requested a switch” [22].

“We'll start by going through how to screen and filter cases. We were on the point of gambling, and we continue to research the disease's spread every day. Because we have direct contact with patients, we meet with the infection control department to learn about the

disease's guidelines and how to protect ourselves. As the number of cases increased day by day, we created a separate fever clinic and adjusted our work schedule. The majority of the employees have been trained in nasopharyngeal switching. The situation was pitiful, and most of the nurses were afraid" (N30).

"The most memorable incident occurred when one of my employees, who was seven months pregnant at the time, was diagnosed with Covid -19 and admitted to the intensive care unit. Until the mother and infant became desaturated, the ventilators were performing admirably. The entire medical team worked tirelessly to save the mother and child. The victim's life was in peril after going without food or water for more than 12 hours. Both the mother and the child, unfortunately, perished. The situation had outraged everyone at the hospital. Accepting death was a difficult task for me, and it was a life-changing experience"(N1).

"When it was discovered that one of my friends had a positive case. After nine months of pregnancy, she was brought to the intensive care unit. LSCS moved immediately and delivered four healthy male babies. For 15 days, Mother was on a ventilator. God was compassionate to her after a difficult battle with life, and she was able to heal"(N5).

"We've come to help the ill, but what about our private lives? Who will look after us? It's all about going with the flow. We don't know when or if this corona will fade away". (N3).

### **Transforming the nurse's role**

Nursing services were in high demand to deal with the covid-19 epidemic. To deal with ventilators, a large number of nurses from various specializations were called in [21]. Despite the fact that she has no previous experience caring for severely ill patients. The team was made up of people from diverse skills and departments. Due to various protocols, communication and cooperation with a new multidisciplinary team was difficult, and they had to immediately find strategies to work together efficiently.

"I'd never worked with people on ventilators before, and the frightening noises made me apprehensive." (N3).

"No one recognizes the face of someone wearing PPEs, and even those who do don't recognize the voice. (N9)".

"Dealing with Covid -19 patients isn't easy; in fact, it's really difficult. When patients develop dyspnea and require high-flow oxygen therapy and ventilation, the majority of them will be awake and alert". (N5).

"Patients who have trouble breathing, tasting, or smelling are among the patients I see. I'm only now becoming aware of the pandemic's consequences". (N9)

### **Psychological reliance of patients**

Nurses have a key role in comforting patients after an unplanned epidemic of the disease. Patients were found to be scared, concerned, and irritable. The nurses supported the majority of the patient's behaviors, such as acquiring food and drink, and they were not allowed to have any visitors, which had an impact on their physical, social, and psychological dimensions.

"My patient was improving steadily, but she was having difficulty breathing. We did everything we could to save him, but we were unable to do so" (N30).

"Because we are on the front lines, we treat patients every day and coach their families on how to help them recover quickly" (N2).

"Every day after duty, I would meet with my patients and, for the most part, soothe them, and I was proud of myself for being a nurse". (N4).

### **Covid-19 Nursing Challenges (Concept 3)**

A third concept emerged from working with COVID -19 care. As a result of the coronavirus outbreak, nurses all around the world are dealing with the most difficult issues and limitations. In order to defeat COVID-19, they have given their lives in vain.

### **Inadequate prior knowledge and experience**

In efforts to prevent, promote, and cure primary and secondary infectious diseases, nursing is the most active partner. Covid -19 is a disease that has just been found and has affected people all over the world. In every country, regardless of socioeconomic development, nursing is considered as the most dedicated profession in the prevention and alleviation of pain during and after treatment of any disease, including the COVID-19 [22].

"We're more at ease with MERSCOV patients, but we're less certain with Covid -19 patients". (N22)

"I have 15 years of expertise caring for ventilator patients, but COVID -19 patients are tough for me to manage because of their constantly changing respiratory status". (N8)

"I'm depressed and powerless because of my patient's circumstance". (N9)

### **Working in an unknown situation**

Working with Covid-19 units at different stages of the disease, as well as the patients' changing symptoms, made the environment even more frightening and stressful.

"Because of the virus's propagation, I haven't been allowed to cuddle my three-month-old baby". (N23)

"I'm suffering from headaches, nausea, and vomiting as a result of my long work hours". (N16)

"I had a fantastic morning shift when a patient with a Covid positive arrived in an ambulance, and I observed he was cyanotic and desaturated. In order to save the patients' lives, I quickly phoned Rapid Response Team, disregarding the doctor's advise, policy, and regulations. Finally, the patient was saved, and it was a once-in-a-lifetime opportunity".

### Shortage of manpower

COVID-19 spread quickly and widely, resulting in a significant number of individuals with varying degrees of severity. The need for nursing care to battle the epidemic has never been stronger. In most cases, each patient is assigned one ICU nurse from the start. As the number of patients increased, the ratio changed to 2:1. When patients are in critical condition, nurses become more professional, aggressive, and autonomous, working as a team and assisting one another in making sense of consciousness and making key decisions in order to confront and manage challenging situations [23].

"Every patient in our 40-bed intensive care unit tested positive for covid-19. The issues I'm having are a manpower shortage and full surge capacity... I am unable to deliver industry-standard care due to a lack of personnel." (N23).

"I called in my night duty people to deal with the matter." (N7)

"On any given shift, we only have three staff members to watch 24 patients in the isolation unit" (N15)

### Personal protection equipment (PPE) challenges

Nurses performed a key role in winning the battle, despite the surroundings and atmosphere. Many nurses said that they avoided eating and drinking before entering the isolation unit.

"I work in the Covid -19 unit for 12 hours, wearing the full set of PPEs". (N22)

"I have a lot of difficulties breathing because of the N95 mask". (N23)

"We're reusing the Mask due to a severe shortage of N95." (N7)

"In the emergency room, we don't have enough personal protective equipment". (N19)

"I work in an ICU, and removing the PPEs has made me feel a lot better". (N29)

## DISCUSSION

Nurses played a critical role in the outbreak of COVID-19, which was widely recognized around the world. This study looked into the experiences of nurses

caring for COVID-19 patients in Najran's main referral hospital. The investigation's conclusions revealed three major themes. Important aspects include the psychological setting, the care cure core context, and the nursing challenges context. In the first context, it was revealed that the nurses placed a strong emphasis on psychological context.

The sub-themes were fear and worry, stress and pressure, and the enormous nursing burden described by the nurses. COVID-19 has caused a host of problems that have impacted their physical and mental well-being. Many nurses were first concerned about themselves, their families, and friends, but they banded together to finish their jobs and move forward in their careers. Rong (2020) did a qualitative study to understand more about the experiences of clinical first-line nurses with Covid -19 patients. The information was acquired through telephonic interviews, and the findings demonstrated psychological reactions to the epidemic's progress, including dread, worry, task pressure, and irritation [24].

As the second context, the nurses emphasized the care cure core context. Dealing with double commitments, infected and non-infected patients, modifying the nurse's role, and the patient's psychological dependency were among the sub-themes. Nurses' capacity to focus on patient care and perform professionally in Najran has been impeded by all of these key issues. Throughout their COVID-19 issues, the nurses in our study expressed anxiety about their obligations. Several general wards were transformed to critical care units and isolation units as a result of the flood of patients, and in addition to ordinary chores, invasive and non-invasive treatments were conducted, causing great physical and mental stress. The majority of nurses indicated their apprehension about working with both infected and non-infected patients. In the emergency room, both infected and non-infected cases were mixed together. The nurses caring for positive patients had been on duty for 12 hours and had been in quarantine for 15 days in a row, and they had panic attacks, especially while isolated and separated from their loved ones, in addition to being worried about the virus. As a result of the covid-19 outbreak, nursing services have been in great demand. According to Buheji et al, nurses are the backbone of any health-care facility, and they are the most important individuals to respond to any emergency or pandemic event [25].

The third context of the nurse's remark is the nurse's challenges. A lack of prior knowledge and competence, working in foreign environments, a staffing shortage, and personal protective equipment difficulties are all addressed in this subtheme. As a result of the coronavirus pandemic, nurses all over the world are facing the most onerous challenges and limitations, and they are risking their lives to combat COVID-19. The situation put their ability to respond to

the epidemic to the test because they lacked prior experience and even specialized expertise.

Work-life quality is influenced by longer work hours, higher stress from patient assessments, and the move to a new working environment. Nurses, according to S. Millar (2020), are an important part of the health-care system and require comprehensive training in infection-control protocols and personal protective equipment (PPEs) [26] and according to Samur(2019), continuous use of PPEs caused pressure ulcers on the ears and foreheads of some nurses [27]. Nurses displayed tremendous strength, effort, courage, and dedication to the COVID-19 patient, according to the findings of our study. Without their continuous support and commitment, many patients will not be able to heal. The study's limitations included the fact that all of the participants were from Najran's King Khalid Hospital, and the research was limited to the general ward, critical care unit, and emergency department.

## CONCLUSIONS

Nurses in Covid units, emergency rooms, and intensive care units were allocated to provide care for a variety of conditions, according to the findings of this study. Despite these obstacles, nurses continue to provide excellent care to their patients and must be recognized in a number of ways, including COVID allowances, suitable duty schedules, recognition, and rewards that motivate them to work cheerfully. Nursing leaders must focus on a safe working environment, sufficient safety equipment, and ongoing training and education programs to improve their physical and psychological well-being and stand up for their profession.

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## Conflicts of Interest

The authors declare no conflict of interest.

## REFERENCES

1. Wang, C., Horby, P.W., Hayden, F.G., Gao, G.F. (2020). A novel coronavirus outbreak of global health concern, 395, *The Lancet*.
2. Ruan, Q., Yang, K., Wang, W., Jiang, L., Song, J. (2020). Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China. Vol. 46, *Intensive Care Medicine*.
3. Fan, E., Del, Sorbo, L., Goligher, E.C., Hodgson, C.L., Munshi, L., Walkey, A.J. (2017). An official American Thoracic Society/European Society of intensive care medicine/society of critical care medicine clinical practice guideline: Mechanical ventilation in adult patients with acute respiratory distress syndrome. *Am J Respir Crit Care Med*, 195(9).
4. Eghbali, M., Negarandeh, R., Froutan, R. (2020). Covid-19 epidemic: Hospital-level response. Vol. 7, *Nursing Practice Today*.
5. Wu, Y.C., Chen, C.S., Chan, Y.J. (2020). The outbreak of COVID-19: An overview. Vol. 83, *Journal of the Chinese Medical Association*.
6. Chang, D., Xu, H., Rebaza, A., Sharma, L., Dela, Cruz, C.S. (2020). Protecting health-care workers from subclinical coronavirus infection. Vol. 8, *The Lancet Respiratory Medicine*. 2020.
7. Schoenhofer, S.O., van Wynsberghe, A., Boykin, A. (2019). Engaging Robots as Nursing Partners in Caring: Nursing as Caring Meets Care-Centered Value-Sensitive Design. *Int J Hum Caring*, 23(2).
8. Jackson, D., Bradbury-Jones, C., Baptiste, D., Gelling, L., Morin, K., Neville, S. (2020). Life in the pandemic: Some reflections on nursing in the context of COVID-19. Vol. 29, *Journal of Clinical Nursing*.
9. Lopez, K.A., Willis, D.G. (2004). Descriptive versus interpretive phenomenology: Their contributions to nursing knowledge. Vol. 14, *Qualitative Health Research*.
10. Qiu, H., Tong, Z., Ma, P., Hu, M., Peng, Z., Wu, W. (2020). Intensive care during the coronavirus epidemic. Vol. 46, *Intensive Care Medicine*.
11. Huh, S. (2020). How to train health personnel to protect themselves from SARS-CoV-2 (novel coronavirus) infection when caring for a patient or suspected case. Vol. 17, *Journal of Educational Evaluation for Health Professions*. 2020.
12. Schwartz, J., King, C.C., Yen, M.Y. (2020). Protecting Health Care Workers during the COVID-19 Coronavirus Outbreak -Lessons from Taiwan's SARS response. *Clin Infect Dis*.
13. Holopainen, G., Nyström, L., Kasén, A. (2019). The caring encounter in nursing. *Nurs Ethics*, 26(1).
14. Parahoo, K. (2001). *Nursing Research: principles, process and issues* Basingstoke: Palgrave Macmillan. In: *Nursing Research: principles, process and issues* Basingstoke: Palgrave Macmillan.
15. Colaizzi, P. (1978). Psychological research as a phenomenologist views it. In: *Existential phenomenological alternatives for psychology*. In: *Existential phenomenological alternatives for psychology*.
16. Armocida, B., Formenti, B., Ussai, S., Palestra, F., Missoni, E. (2020). The Italian health system and the COVID-19 challenge. Vol. 5, *The Lancet Public Health*.
17. Paterlini, M. (2020). On the front lines of coronavirus: The Italian response to covid-19. Vol. 368, *The BMJ*. 2
18. Vo, T. (2020). A Practical Guide for Frontline Workers During COVID-19: Kolcaba's Comfort Theory. *J Patient Exp*, 7(5).
19. Giuliani, E., Lionte, G., Ferri, P., Barbieri, A. (2018). The burden of not-weighted factors –

- Nursing workload in a medical Intensive Care Unit. *Intensive Crit Care Nurs*, 47.
20. Corless, I.B., Nardi, D, Milstead, J.A., Larson, E., Nokes, K.M., Orsega, S. (2018). Expanding nursing's role in responding to global pandemics 5/14/2018. *Nurs Outlook*, 66(4).
  21. Xie, J., Tong, Z., Guan, X., Du, B., Qiu, H., Slutsky, A.S. (2020). Critical care crisis and some recommendations during the COVID-19 epidemic in China. *Intensive Care Med*, 46(5).
  22. Tamblyn, S. (2020). Clinical Management of Patients with Moderate to Severe COVID-19 - Interim Guidance. Public Heal Agency Canada.
  23. González-Castro, A., Escudero-Acha, P., Peñasco, Y., Leizaola, O., Martínez de Pinillos Sánchez, V., García de Lorenzo, A. (2020). Intensive care during the 2019-coronavirus epidemic. Vol. 44, *Medicina Intensiva*.
  24. Tan, R., Yu, T., Luo, K., Teng, F., Liu, Y., Luo, J. (2020). Experiences of clinical first-line nurses treating patients with COVID-19: A qualitative study. *J Nurs Manag*, 28(6).
  25. Millar, R.C. (2020). Nursing a patient with Covid-19 infection. *ISSN Pending Inaug issue*, 1(1).
  26. Samur, M., Seren, Intepeler, S. (2019). Nurses' view of their work environment, health and safety: A qualitative study. *J Nurs Manag*, 27(7).