


## The challenges faced by the nurse of the intensive care unit in the treatment of patients with Covid-19: An integrative literature

 <https://doi.org/10.56238/emerrelcovid19-021>

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### **ABSTRACT**

Objective: to highlight the main challenges faced by nurses in the intensive care unit in the treatment of patients affected by covid-19. Method: integrative literature review, operationalized in the scientific electronic library online databases, database on nursing, sus collection and latin american and caribbean literature on health sciences. Results: through a search of the chosen descriptors, 14 articles were selected from a sample of 403. 3 main axes of analysis were categorized: challenges related to structural issues of the icu environment, environmental challenges related to the hospital environment and psychosocial challenges related to the nursing profession applied to the covid icu. Conclusion: there are structural and psychosocial factors that impact the nursing service in the icu, and these factors need to be mitigated to improve the quality of life and health of professionals, and consequently to improve health care.

**Keywords:** Intensive care unit, covid-19, role of the nursing professional.

## 1 INTRODUCTION

The COVID-19 pandemic has posed a major challenge for the entire world population, but especially for healthcare workers. Given the high transmissibility of SARS-CoV-2 – severe acute respiratory syndrome, the pandemic has had a huge impact on the Health System (TZANNO-MARTINS, 2020).

In this way, it is possible to say that the pandemic has created unique challenges for workers around the world. While most of the workforce was asked to work from home to help "flatten the curve," health workers were asked to remain on the front lines, working long hours to combat this deadly threat, even though they lacked adequate conditions in terms of structure, personal protective equipment, and training (DE MOURA, FURTADO, SOBRAL, 2020).

The great speed with which viral reproduction occurred in COVID-19 made it a serious disease and certainly more contagious than influenza and even though a small portion of those infected required intensive care, it was possible to say that in the context of the pandemic, Intensive Care Units (ICUs) were simultaneously challenged in terms of limited resources, infection control, protection of

health workers and adaptation to a scenario of rapid progression of the pandemic (HUESPE et. al., 2021).

Because it is a place of intensive care for critically ill patients, the ICU must have great technological and human resources necessary for assistance and care to the patient, being often seen as a hostile, cold place, without human warmth where machines and technical actions prevail in relation to humanized care (FERNANDES et. al., 2012).

In this context, it is necessary to highlight that, among frontline professionals, especially nursing professionals, constant exposure to stressful situations due to the lack of supplies, fear of contagion resulting from direct contact with infected people and the great demand for work are factors that have become constant, especially in ICUs, subjecting them to occupational stress and Burnout Syndrome – SB (FREITAS et. al, 2021)

What was seen, therefore, were numerous challenges for health workers, especially those who maintained continuous contact with the patient during the intensive care period. Nurses were required to have the capacity for innovation, decision-making and leadership to create more favorable conditions for the implementation of care in the care of patients with COVID-19 (BUSANELLO et. al., 2020)

Thus, the aim of this study was to analyze the main challenges faced by ICU nurses in the treatment of COVID-19 patients through an integrative literature review.

## **2 METHODOLOGIES**

To synthesize the state of knowledge on the theme of this study, an integrative literature review was conducted. This method of investigation was according to Sousa et al. (2017), has six distinct phases: identification of the theme and selection of the hypothesis or research question for the elaboration of the integrative review; establishment of criteria for inclusion and exclusion of studies/sampling or literature research; definition of the information to be extracted from the selected studies / categorization of the studies; evaluation of the studies included in the integrative review; interpretation of the results and presentation of the review/synthesis of knowledge.

The identification of the choice of theme was based on the professional experiences of the authors at the time of the pandemic, thus evidencing the importance of the discussion, elaborating the following guiding question: what are the main challenges faced by ICU nurses in the treatment of COVID-19 patients?

To answer this question, the description strategy "PECOS" was used, where P = Population (ICU nurses); E = Exposure (COVID-19); C = Comparator; (Not applicable) O = (Outcome) outcome (main challenges faced); and, S = (Study type) (types of studies) (observational studies).

Subsequently, the criteria for the selection of articles to be used in the integrative review were defined. For this purpose, the following health science descriptors (DeCS) were used: "COVID-19", "Intensive Care Unit" and "Nursing". To make a more precise search, the Boolean operator AND was used, with the equation as follows: "COVID-19" AND "Intensive Care Unit" AND "Nursing".

The selection of the databases was made through a search in the electronic address of the Virtual Health Library (VHL), being selected the databases SCIELO, LILACS, BDeNF and Collects SUS.

The inclusion criteria: articles published from 2019 onwards – considering the beginning of the pandemic and the scientific production on the subject, challenges of the ICU nursing professional, in the treatment of patients affected by COVID-19, in Portuguese, and complete. As exclusion criteria, theses and course conclusion papers were exempted from the sample, as well as bibliographic reviews and letters to the editor.

### **3 RESULTS AND DISCUSSION**

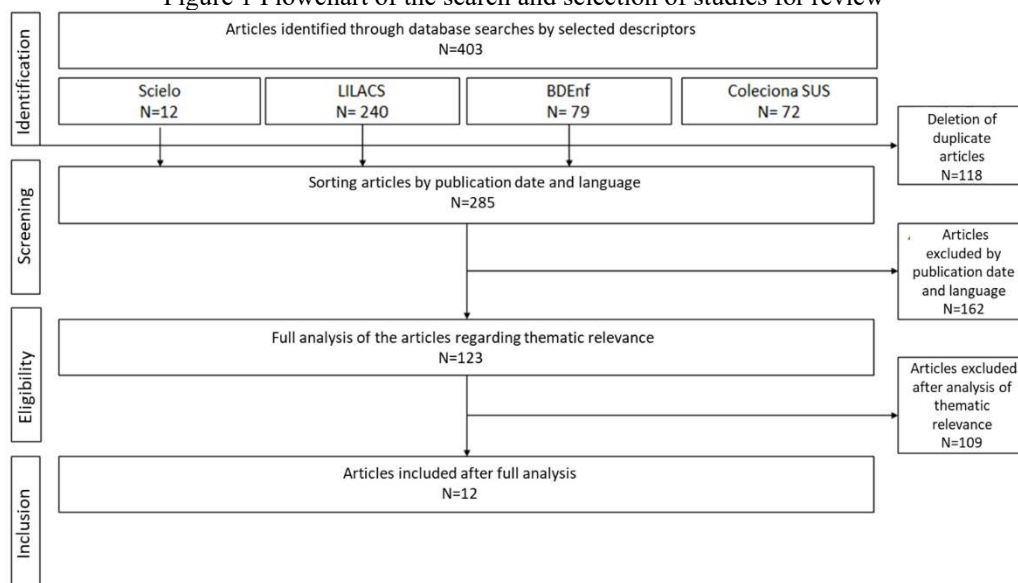
The articles that met the inclusion criteria were analyzed to the full extent and their data were collected by the researchers including the following variables: (1) author and year of publication; (2) study objective, (3) study design and (4) main results;

Considering the option to perform an integrative literature review, which, as mentioned, seeks the synthesis of practical information for the construction of theoretical information, the selection of articles that were developed through methods of practical analysis was intensified, in order to better systematize the information.

We also sought the analysis of the main results, considering more relevant articles that emphasized the role of nursing in the COVID ICU, as well as the existing impact on the nurse's performance in the face of structural, conjunctural or environmental and psychosocial obstacles.

The selection, after the application of these criteria, was ordered according to the flowchart below:

Figure 1 Flowchart of the search and selection of studies for review



Thus, 13 articles were selected for evaluation and interpretation of the results. The articles were systematized according to the following synoptic table:

Frame 1 Synopsis of the studies that highlighted the Key Challenges Faced by ICU Nurses in Treating COVID-19 Patients

Author/Year/Journal	Study Objective	Methodology	Major results
BUSANELLO et. al, 2020, Enferm. Focus.	Reflect on strategies for optimizing intensive care in the care of patients with COVID-19.	This is a theoretical-reflective study that rescues the updated considerations about the management of intensive care in the context of the pandemic.	Optimizing COVID-19 patient care requires reorganization of intensive care units, training, provision of personal protective equipment, and occupational health care.
MOURA, FURTADO, SOBRAL, 2020, Journal of Business Administration.	To evaluate the support of leadership in the prevention of burnout syndrome in health professionals.	Field study with 2,708 Brazilian physicians.	Report the importance of establishing high-quality relationships between supervisors and medical staff to mitigate the experience of burnout.
FREITAS et. al, 2021, J. bras. Psychiatr	To evaluate the prevalence and existence of predictive factors of burnout syndrome in nursing technicians working in intensive care units (ICUs) during the COVID-19 pandemic.	This is a descriptive, cross-sectional study with a quantitative approach with 94 intensive care nursing technicians.	The prevalence of burnout syndrome in nursing technicians working in ICUs who are on the front lines of the COVID-19 pandemic was high and sociodemographic, occupational, and behavioral factors were shown to be predictors of the syndrome.
SAINTS et. al., 2021, Cuid Enferm	Describe the actions to confront COVID-19 in an urgent and emergency unit of a teaching hospital	This is a descriptive case study carried out in an urgency and emergency unit of a teaching hospital in northwestern São Paulo	The actions developed in the urgency and emergency unit should serve as an experience and support to other health services.
SILVA JUNIOR et. al., 2021, Rev. Rene	To understand the impact of music in intensive care for COVID-19 as an instrument of humanization of care from the perspective of care nurses.	Qualitative study conducted with seven intensive care nurses working in an Intensive Care Unit for COVID-19 of a state public hospital	Evaluation of the humanization of care in the ICU

ALMEIDA et. al., 2021, Esc. Anna. Nery	Reflect on COVID-19 as a phenomenon of social representations for the nursing team of the Intensive Care Unit	Theoretical-reflective study, based on the framework of social representations, through the collection of official data in the databases of the Ministry of Health of Brazil and the World Health Organization	The proposition of care-education technologies that qualify the nurse's performance in the care of critically ill patients with COVID-19
CONZ et. al., 2021, Rev. esc. sick. USP	To understand the experience of nurses working in the Intensive Care Unit with patients infected by COVID-19.	Qualitative research, anchored in the social phenomenology of Alfred Schütz, who interviewed 20 nurses working in Intensive Care Units of public and private hospitals, between July and September 2020	To highlight the need to adapt to this new way of caring that includes the physical space, new institutional protocols, continuous use of protective equipment and differentiated care required by patients
DOS SANTOS et. al., 2021, Rev. baiana enferm.	To analyze the nurse's conception of professional satisfaction in the Intensive Care Unit environment.	This is a descriptive study with a qualitative approach, through semi-structured interviews with 11 nurses from a university hospital in the state of Sergipe	Highlight the importance of professional satisfaction in the provision of nursing services
FERNANDES et. al., (2021), Rev Plínio Leite University Center	To evaluate the influence of technology on the humanization of nursing in the context of the COVID ICU	This is an exploratory and descriptive study, through semi-structured interviews with the nursing team, which takes turns in this institution in shifts of 12/60 h per week, belonging to the active staff for at least one year of a public hospital in the city of Rio de Janeiro	Assessment that technology and humanization should always be together for the benefit of the patient hospitalized in an ICU
BITTENCOURT et. al., 2020, Text context - enferm	Report the experience in the process of structuring and managing a specific unit for COVID-19	Authors' experience report on the creation and management of the <i>Coronavirus Disease 2019</i> (COVID-19) unit, in March 2020, in a philanthropic hospital in the State of Santa Catarina.	Highlight the role of the nurse in all interfaces of planning and management of the structuring of the COVID unit
MORAES, ALMEIDA, GIORDANI, 2020, Scientia Médica Porto Alegre,	Highlight nursing care in a COVID ICU	Authors' experience report	Emphasize the role of the nurse in putting together strategies to qualify care and, at the same time, promote the safety of professionals who work directly in the care of patients with COVID-19.
BELARMINO et. al., 2020, Av Enferm.	Report an occupational health experience of nursing in obstetric critical care during the Covid-19 pandemic.	Experience report focused on the professionals of a reference maternity hospital in Ceará, Brazil, during the activities in the intensive care unit in the face of the Covid-19 pandemic	To highlight the need to implement actions to mitigate the negative repercussions for nursing professionals involved in critical obstetric care during and after the critical phase of the pandemic.

### 3.1 CHALLENGES RELATED TO STRUCTURAL ISSUES IN THE ICU ENVIRONMENT

The COVID-19 pandemic has given rise to the need for rapid adaptation of institutions. Santos et al. (2021) highlights the participation of nurses in this adaptation, through permanent education in the admission of new professionals, preparation and training of the institution's collaborators, to

understand the new flow of patients, new protocols and use of PPE. However, this adaptation requires a reordering of the internal work processes, with the necessary technical and material support by the hospital institution.

It is also noteworthy that the ICU environment is the sector where the most in-depth care is provided to patients. Given this, Almeida and others (2021) claim that nursing professionals in this sector become more susceptible to infection, a fact corroborated by official data. This aspect, in particular, brings articulated the anxiety and fear of contamination in relation to oneself, the team and the family members, feelings that are accentuated when considering the availability of personal protective equipment in many health institutions, since in hospitals in Brazil and the world there was a shortage of such equipment.

Still, in relation to structural issues, it is noteworthy that the increase in demand has led, in many cases, to the need to increase and adapt the number of beds, causing the physical space to be affected, thus impacting the work of professionals. The study developed by Conz and others (2021) reports that the nurses they interviewed reported that the increased demand for ICU care due to COVID-19 cases made it difficult for professionals to provide care, considering that the physical space had to be adapted to care for this disease.

Allied to this, it is verified that the nursing workforce in the ICU is specialized, and that the work overload meant that qualified professionals to assume the jobs were not always found in the market. Belarmino and others (2020) point out that the progressive and rapid increase in critically ill patients occurs simultaneously with the growing number of sick leave of professionals from the maternal ICU due to Covid-19, which reveals another impact of the pandemic: the overload of work for substitute nursing professionals who provide care to the population. In addition, even with the replacements, another major challenge arose: the lack of qualified professionals to take over sectors that require qualification and experience in critical care.

Another relevant issue concerns the very nature of care in the ICU. Fernandes et al. (2021) highlight that the ICU environment is characterized by a work that involves a strong emotional load, in which life and death mix, composing an exhausting and often frustrating scenario. The stressful factors in nursing work in this sector can be exemplified by several situations, such as dealing with the suffering of the patient and the family, the specific work of the profession (which requires agility, attention and renewal of technical knowledge), the need for improvisation, bureaucratic issues, the interrelationship with the team and the constant noise of the devices. These aggressive factors do not only affect patients, but also the multidisciplinary team, especially the nursing staff who live daily in this context.

### 3.2 CHALLENGES RELATED TO THE HOSPITAL ENVIRONMENT

Given the high transmissibility of SARS CoV2, the need to provide adequate PPE for the protection of health professionals was detected from the outset, with the aim of promoting the care of patients with a reduced risk of infection. However, Moraes, Almeida and Giordani (2020) mention that one of the main problems related to the care of patients with COVID-19 is the guarantee of daily supply of PPE to all care professionals. Thus, it is essential for the safety of employees, the maintenance of a minimum necessary stock of PPE.

Still, regarding the ICU environment, it is verified that this sector is intrinsically linked to the need for a greater contribution of high-tech equipment. In this sense, although technology is a factor of greater health promotion, there is an impact on nursing work. Dos Santos and associates (2021) discussed this issue, when they mentioned that the nurses interviewed in their study, when asked about the technological contribution used in the ICU, stated that it contributes to the nurse providing safe care to critical patients. However, this professional needs to be able to associate their scientific knowledge with the use of technology and the patient's care needs, a training that is not always possible in the context of the pandemic, due to the overload of work and the need for urgency in care.

In this line, it is noteworthy that the pandemic has created a context in which the demand for labor in the health area has been oversized, also generating an overload on existing professionals. Bittencourt and others (2021) mention this in their experience report, emphasizing the role of the nurse in personnel dimensioning, placing the nurse – especially the managers – in a position to argue with the administration of the hospital institution about the demand for more professionals, especially punctuating the level of complexity of the care given to individuals suspected or confirmed of COVID-19.

### 3.3 PSYCHOSOCIAL CHALLENGES RELATED TO THE NURSING PROFESSION

A point that generates problematic issues in the hospital environment in general – and in the ICU, especially – concerns labor relations and the role of leadership in the sector. Moura, Furtado and Sobral (2020) highlight that the development of Burnout Syndrome (BS) follows two processes: the first process involves extreme work demands that lead to constant overload and, finally, to emotional exhaustion, and the second process is related to the lack of resources that prevents the fulfillment of work demands, leading to withdrawal behaviors, like shutdown. As a way of mitigating these issues, the authors argue that effective leadership acts in the attenuation of BS through its influence on employees' perceptions regarding the psychosocial demands and resources of work, which include perceptions related to social support, psychological demands and control over work.

Again, it is highlighted that psychosocial conditions related to nursing are also among the hindering factors in the work of nurses in the ICU, and susceptible to the generation of BS. Freitas and others (2021) highlight that some occupational characteristics are more often associated with the development of BS, such as working overtime and having a rigid workload – common situations in the ICU, in which the very nature of the service provided requires nurses to commit beyond normal working hours. In addition, there is the fact that, in order to guarantee better wages, nursing workers need to perform long professional work hours or double shifts, which may reflect on the process of psychological illness of these professionals.

Long working hours lead to an imbalance between effort and reward, characterize increased demands at work and may influence outcomes such as BS. Long working hours can vary in intensity, breaks, and repetition frequencies. The worse the working conditions in terms of psychosocial and workload, the more damaging the working day tends to be.

Psychosocial issues were also raised by Silva Júnior et al. (2021), who mention that in nursing care during the COVID-19 pandemic, professionals working in intensive care should be in continuous monitoring, so that their emotional needs are met as soon as they arise. They also highlight the need for a psychology service available during all hours of the care shift with qualified and qualified professionals to meet this demand, thus evidencing the need for actions to prevent mental illness in these professionals.

In the same line is the study by Busanello and others (2020) who report that the precariousness of support and support services to manage depression, anxiety, fear and psychological suffering arising from the experience of this context is extremely impactful in the context of nursing. Thus, to ensure a qualified and sufficient workforce to meet the pandemic demand, it is necessary to establish support strategies for health professionals.

#### **4 FINAL CONSIDERATIONS**

According to the study carried out, it was found that the COVID-19 pandemic left an indelible mark on the life of society and left us a message that we are not prepared to act in major disasters or pandemics, without planning or contingency plan to be able to carry out the assistance to the great demand that sought the health services, putting the authorities and health managers with difficulties in decision-making and increasing the overload of work and pressure on workers, as demonstrated and in this sense, ICU services have been widely used, necessitating the opening of more beds and field hospitals to assist citizens affected by COVID-19.

And among the challenges cited as the greatest need for training on the part of nurses, mainly due to the novelties that the disease was bringing in its context in the day to day, working under

pressure and with the eminence and often the certainty of death of patients, working with new light and hard technologies for care, sometimes lack of material resources and even PPE, emphasizing the fear of being affected by the disease and thus leading to a disabling mental illness that generated sequelae, bringing memories of the panic of these moments of the pandemic.

In this sense, it is necessary to have contingency plans for various situations and training of health professionals that can better support the process, in addition to psychoemotional assistance and appreciation of these employees, so that it can have repercussions in a reduction in morbidity and mortality in society.

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