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IMPLEMENTATION OF AN INTENSIVE CARE UNIT (ICU) DURING THE CORONAVIRUS PANDEMIC IN A PUBLIC HEALTH UNIT: AN EXPERIENCE REPORT

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ABSTRACT

Objective: To describe the experience of a nurse in the implementation of an intensive care unit during the Coronavívus pandemic and the strategies used in the organization of the unit and the nursing team in the face of the difficulties imposed by the scenario experienced. Methodology: This is an experience report of nurses involved in the creation of a unit focused on the treatment of critically ill patients affected by COVID-19, at the height of the Coronavirus pandemic in Brazil. The study took place in two stages: in the first stage, a literature review was carried out and in the second stage, the description of the organization of the service, training of flows and established routines. Results: The physical space, routines in the service for intensive care of patients with COVID-19 were organized, and the nursing team was managed in terms of training, dimensioning, and emotional support for professionals. The difficulties and challenges encountered in terms of human, material and structural resources were described. Conclusions: Progress was made in the organization of care and training of professionals, as well as efficiency in the adequacy of the service in the face of constant changes. The obstacles experienced in coping with COVID-19 required a critical look from nurses, skills and competencies to establish new strategies to minimize losses in established processes and the spread of the new coronavirus.

Keywords: Nursing Care. Intensive Care Unit. Intensive Care. Quality of Health Care. Coronavirus Infections.

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INTRODUCTION

At the beginning of 2020, the variation of a virus affected human life globally in a way that transformed all of humanity without precedent. The circulation of people between different nations has generated a rapid spread of the new Coronavirus, where the transmission of the Sars-CoV-2 virus between individuals occurs through contact with mucous membranes (nose, eyes, or mouth), causing important and potentially serious respiratory impairments, with mortality and disastrous impacts on health, services, the economy, and several other areas (Oliveira , 2020).

The health sector, worldwide, has been absorbing the population and simultaneously training professionals and employees to care for patients infected by the new coronavirus (COVID-19), according to the findings and guidelines of the World Health Organization (WHO). Reducing the community transmissibility of the new coronavirus and providing opportunities for the proper management of cases was a necessary strategy to reduce mortality from the disease (Brasil, 2020a).

In parallel with the progression of the number of COVID-19 cases in Brazil, there were consecutive discussions on the establishment of flows and training, services and routines were implemented to manage the impacts of the pandemic on the population, health services, and professionals, according to the reality of each region (Brasil, 2020b).

Measures to prevent and control the number of cases, contain risks and problems to public health, as well as health units, need to organize care spaces and training strategies for professionals to adapt to the emerging health needs of the population (Brasil, 2020b).

In a health unit, located in a municipality in the metropolitan region of the State of Rio de Janeiro, where the pandemic was experienced, the need to implement an intensive care unit focused on COVID-19 cases, which required more complex care, was demonstrated. In February 2020, a space that was under renovation for the inauguration of an intensive care unit was prioritized for a brief inauguration, given the population's health needs.

Still with some structural, material and human resources pending, health supplies and equipment were optimized and directed to the inauguration of the sector aiming to increase the number of beds for intensive care.

It was necessary to create flows, roundabouts and training for health professionals and other employees on the virus, how it spreads, precautions and risks to minimize the spread of the disease between intra-hospital environments.

This study aimed to describe the experience of a nurse in the organization of an intensive care sector and in the implementation of flows, routines and training for the

nursing team in the care of critically ill patients infected by COVID-19, in a health unit in the metropolitan region of the State of Rio de Janeiro.

Considering the emerging needs in the pandemic, the questions about the functioning of an intensive care unit and the new coronavirus; and how the nurse in the role of nursing coordinator of the sector can manage the nursing team in the care of patients with COVID-19, were guidelines for this experience report.

METHODOLOGY

This is a report of a nurse's experience in the coordination of an intensive care unit in the process of implementation in a health unit in the metropolitan region of Rio de Janeiro for the care of critically ill patients affected by COVID-19. The study was not submitted to the Research Ethics Committee (CEP) for issuance of a Substantiated Opinion because it is a self-report of experience, and this step is dispensable, according to Resolution No. 510 of 04/07/2016 (CNS, 2016).

The study took place in two stages: in the first stage, a literature review was carried out to search for publications that described experiences, recommendations, guidelines and contributions on intensive care and nursing care in the coronavirus pandemic, in addition to verifying recommendations from health agencies that guided health actions to face the pandemic and control infection by the new coronavirus in the intra-hospital environment.

Articles available *online* were verified, which addressed intensive care and nursing care in the pandemic of the new coronavirus, considering the reality experienced in the country, to contribute to the adequacy of care according to the local reality, where scientific production indexed in the Virtual Health Library (VHL), published in Portuguese, published in 2020 and 2022, available in full.

The scientific production was analyzed by crossing the health descriptors: Nursing care, Intensive care unit; Intensive care; Quality of health care; Coronavirus infections, where 18 publications were found. After a brief evaluation of the publications through reading the abstracts, 10 articles were not related to the theme, were not in Portuguese or complete and were eliminated from the evaluation, only 6 articles were selected to contribute to the process of creation and coordination of the nurses helped to support the discussion.

Considering the small sample of articles, we chose to perform a manual search in the references of these articles in order to verify articles of interest to the topic, which were not identified in the search strategies, but which could offer relevant information about experience reports related to nursing and COVID-19.

Productions were found that addressed COVID-19 precautionary and control measures and intensive nursing care for patients with COVID-19, but no article on the institution of an intensive care unit for patients affected by COVID-19.

The use of documents from the WHO, the Ministry of Health (MoH) and the National Health Surveillance Agency (ANVISA) were fundamental in the process of developing strategies to face the pandemic in intra-hospital units, although these documents have undergone constant revisions and updates throughout the pandemic, guiding the processes of health services.

In the second stage of the study, the health service was adapted to the protocols and recommendations of ANVISA, WHO and MS, for infection control by the new coronavirus, implementing nursing flows and routines, in addition to professional training to work in the intensive care unit.

The space of the intensive care unit was organized according to the structural structure, available equipment and professionals with greater technical capacity in the service for the scale of the sector. These processes were important to absorb the local population suffering from COVID-19 and who needed intensive care.

RESULTS

In view of the emerging demands in the pandemic of the new coronavirus, health services suffered impacts on their dynamics, requiring reorganization and structural adjustment, review of flows and routines of the teams to face and control the infection by COVID-19, aiming at the maintenance and recovery of the population's health.

The health unit where this reported experience was lived underwent structural changes to absorb the sick population, having inaugurated a tomography equipment on that occasion, and accelerated the feasibility of the space under construction for the operation of an intensive care unit, and all possible and necessary adaptations to accommodate this patient profile.

The municipal administration had to acquire mechanical ventilators, multiparameter monitors, infusion pumps, hospital beds and furniture since this hospital unit is the only one in the city. In addition, inputs and equipment that made the operation of this space possible were provided from other units of the municipality and sectors.

Some structural challenges were found that remained in adequacy after the inauguration of the sector, due to the emergence of the pandemic situation, regarding the distribution of furniture between beds, adjustments in lighting, availability of inputs and flows within the sector.

Many medical and hospital materials and medicines were in shortage worldwide due to the abrupt increase in consumption and difficulties with the availability of raw materials and time for production, making it necessary to supply the sector with available inputs and constantly replace drug conducts according to the availability of certain drugs on the market, such as sedatives and others.

The intensive care unit was set up with 10 (ten) beds for exclusive care of adult critical patients affected by COVID-19. Inaugurated at the end of March 2020, this unit had the profile of care for patients with COVID-19 until the end of July 2023, when there was a significant reduction in the number of hospitalizations for COVID-19, at which time the profile was changed to a general intensive care unit.

Nursing professionals were hired as emergency to compose the team, and the schedule was designed prioritizing the allocation of professionals with greater experience in the adult intensive care sector, although it was necessary to mix with other inexperienced professionals who required in-service training and frequent supervision.

Professionals encountered difficulties with bureaucracies, fear of exposure to the virus, lack of knowledge about the therapies and protocols that were established during the pandemic, prognosis of the disease, insecurity with skills and competencies under development. The teams suffered from physical and mental exhaustion, illness and absence from colleagues, because despite the improvement in the organization, many routines and flows were implemented, and the care demands were constant.

The proximity of the nursing head to the team was fundamental in supporting these employees, from continuing education to work in critical care, as well as overcoming care obstacles and emotional support, contributed to the construction of the service and adaptation to the numerous new recommendations.

Bundles ("set of measures for the prevention of nosocomial infections") were implemented to control and evaluate invasive procedures and prevent health-related damage, and some routines such as: screening of multidrug-resistant bacteria, special care, identification and exchange of articles, patient admission, patient safety, bedside infection control, pronation protocol, among others that the need for implementation was evaluated. Some training was carried out, such as preparation and administration of medications, collection of swabs and blood culture, use of personal protective equipment (PPE), gowning and undressing, advanced life support, among other demands.

A key point in this process was the issue of PPE, which are personal protective devices used by professionals to prevent exposure to risks that the work environment offers to their health. The main equipment involved in the care of patients with COVID-19

recommended for health professionals are: goggles or face shield, N95/PFF2 mask or equivalent, use of a cap due to the possibility of generating aerosols in the environment, apron (Anvisa, 2020a; Brazil, 2005)

With the increase in global consumption of PPE during the pandemic, as well as in the health unit where this experience took place, production did not keep up with demand and it was necessary to ration the use of PPE, due to the possibility of lack of this equipment (WHO, 2020). The reorientation on the use of PPE was essential to avoid waste and shortages, where the extension of the useful life of each PPE and strict control was essential for the continuity of the service.

The period that each PPE should be used was guided by the Hospital Infection Control Service (SCIH) of the Unit, in accordance with the regulations of the National Health Surveillance Agency.

Despite the difficulties encountered throughout the process of implementing the service, such as staffing, management of inputs and changes in flows and routines, over the months, the nursing team adapted to the space and the new recommendations, becoming more comfortable and resilient, and consequently improving the quality standard of care.

DISCUSSION

During the pandemic of the new Coronavirus, many experiences were experienced by humanity, transformations, losses, adaptations and rationing were necessary in several global sectors and the health sector suffered an unexpected impact, with saturation of health services, from beds, human and material resources. Great challenges were imposed and the need to plan strategies, adapt services and review various guidelines were decisive in overcoming limitations.

The health unit under discussion, where this experience was lived, went through numerous difficulties, as well as other units throughout the country. The availability of professionals was a problem, especially when many were removed because they belonged to risk groups. The illness of nursing team professionals due to COVID-19 was a factor that had to be managed, since the lack of employees compromised the regularity of activities.

Access to PPE for health workers was a concern, due to the possibility of scarcity in places with high demand for care. This concern, common to many units, was also experienced in the health unit in question, and the use of various inputs, including PPE, was lacking or restricted.

Ensuring access to PPE, as well as training workers on the flows and routines for the correct use of barriers to exposure, is essential and aims at the safety of health professionals and workers (Gallasch, 2020). Despite the training, it was observed that some professionals felt insecure and uncomfortable with the correct use of PPE, requiring repeated guidance on their use, sensitizing professionals to prevent contamination, illness and the possibility of becoming vectors for the spread of the virus.

The anguish of the professionals with the use of PPE for a long time, the numerous routines and protocols, the various uncertainties, the lack of inputs and medicines that are fundamental in the maintenance of life, the absence of professionals due to contamination and illness, the frequent relocation to cover the team, in addition to the experiences with deaths, were factors that were difficult to manage for the team and for the coordination. However, teamwork and mutual support were fundamental in overcoming and continuing the work, as observed in the literature, occurrences in other health services (Souza, 2021; Bao, 2021).

The implementation of protocols to standardize conducts in health institutions, the training and organization of teams to act in the control of the spread of the COVID-19 virus was essential for the maintenance of coping strategies.

The standardization of bundles, first the deep puncture bundle, implemented after training the ICU team, corroborated the evaluation of procedures and the prevention of further damage associated with health. Initially, there was resistance from the team in general to commit to filling out the form correctly, but adherence progressively increased after raising awareness about the importance of processes in risk analysis and prevention (Shimabukuro, 2014).

Institutional protocols have undergone constant adjustments, considering the recent discovery of the new Coronavirus, requiring continuous technical-scientific updating (Rodrigues, 2020). The training and verification of difficulties presented by the nursing team were fundamental for the improvement of the service, which encountered constant challenges for adequate functioning.

The emotional factor had a great impact on the team because, in addition to their personal fears and insecurities, the team began to experience the lack of resources and supplies, the occurrence of many deaths, witnessed the suffering of families, among other factors that impacted the team, with the support and empathy of health managers being essential in coping with these professionals (Busanello, 2020).

Insecurity, pressure, and demands have led professionals to neglect their own mental health in the tireless and constant fight against COVID-19, leading to the emergence of disorders related to stress and anxiety (Rodrigues, 2020).

Unfortunately, there was no psychology service available to take care of the employees of the health unit where this experience was lived, making the nurse important mediators, as they coordinate several teams.

Souza (2020), reports that in health units, despite the insecurity generated in professionals by the severity of the pandemic, when they realized that the manager was concerned about their safety, they tended to develop their work practice with greater self-confidence and tranquility (Souza, 2020).

The demonstration of empathy and the reinforcement of training to ensure safety for professionals in the face of COVID-19 was characterized as an important coping strategy. Empathy is a fundamental condition for leading the team in times of crisis. Using empathy helps managers understand the behavior of their team, making more assertive decisions, considering the objective and subjective dimensions that influence professional practice (Souza, 2020).

Nurses encountered important challenges regarding the care and quality of nursing services in intensive care (Nunes, 2020). Nurses play the role of caring for their fellow human beings, whether in care, coordination, research and teaching, because their knowledge, when shared, offers support for self-care and care for others.

CONCLUSION

The pandemic of the new coronavirus required adaptation and reorganization of health services around the world. The creation of spaces aimed at caring for critical patients affected by COVID-19, the elaboration of flows and training of health professionals were decisive in maintaining the lives of these people.

In view of the limitations found both related to information and the availability of materials, inputs and trained human resources, the nurse's knowledge was an important pillar in the organization of a space focused on the care of critical patients, in the coordination of the nursing team that works in this environment, in the implementation of flows and routines together with the general coordination and hospital infection control service, Patient Safety Center and other health professionals.

The structuring of an intensive care sector was an important challenge, and the regulatory norms used in the organization of the environment, the experience of this nurse

and the team of the general coordination of nursing, physician and general of the unit were fundamental in this process, considering the structural reality.

Documents published by health regulatory agencies were decisive for the production of flows and routines in the health unit, training and strategies to face the pandemic. The knowledge disseminated about the pandemic required periodic adjustments in the flows, and it was necessary to adjust to the reality of the unit in real time.

Material, human resources, knowledge and other difficulties that arose as a result of the pandemic or the unit's internal problems were some of the challenges encountered during this period.

Empathy with the nursing team, who were often insecure with the recommendations and training, was essential for the nurse to keep the team cohesive, maintaining physical health and continuous work activities in the health unit.

Reporting nurses' experiences in the elaboration of health protocols and routines is of great relevance to the academic community, as it contributes to the discussion about possible strategies to combat health problems, and in the context of the pandemic, to control the spread of the SarR-CoV-2 virus, minimizing the impacts generated as a result of it.

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