


## Transoperative nursing care in times of COVID-19: An experience report

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**Alana Freire Cisne<sup>1</sup>, Antônia Rejânia Ávila<sup>2</sup>, Débora Sousa Paiva<sup>3</sup>, Diego Bruno Santos Pinheiro<sup>4</sup>, Leidiane Maria da Silva de Paiva<sup>5</sup>, Maria de Lourdes Santos Rocha<sup>6</sup>, Maria Deluza Alves da Silva<sup>7</sup>, Priscila Dias Pinto<sup>8</sup> and Fernanda Maria Gonçalves<sup>9</sup>**

### ABSTRACT

COVID-19 is a disease caused by the new Coronavirus that was identified in China in December 2019, soon after there was already a record of community transmission in Brazil, due to its high transmissibility, combined with the absence of recognized effective treatments. The Surgical Center (CC) is a hospital unit where anesthetic-surgical, diagnostic, and therapeutic procedures are performed, both elective and urgent and emergency. Surgical practices were directly affected because of the COVID-19 pandemic, with the need to suspend elective procedures and prioritize urgent and emergency procedures. In this context, planning to perform surgical procedures in a safer way, both for patients and for the team of professionals, has become a challenge and has been based on new protocols, specific checklists, and new practices for the prevention and control of SARS-CoV-2 transmission. The study aims to report the experience of transoperative nursing care for suspected or confirmed COVID-19 patients. This is an experience report on the planning and implementation of safety measures in transoperative nursing care for suspected or confirmed COVID-19 patients in a CC of a referral hospital in the North Zone of Ceará. Based on the care dynamics of the surgical unit, exclusive operating rooms (OR) were defined to perform surgical procedures in patients with suspected or confirmed cases of COVID-19, in compliance with ANVISA's recommendation, and other rooms for elective procedures that cannot be postponed. The recruitment of professionals to compose the on-call staff due to the increase in care demand is highlighted. their training on care protocols and checklists used in suspected

<sup>1</sup> Specialist in Professional, Scientific and Technological Education. Graduated in Nursing.  
Centec - Instituto Centro de Ensino Tecnológico

E-mail: freire.cisne28@gmail.com

<sup>2</sup> Graduated in Nursing; Urgency and Emergency Specialist

Institution: Centro Universitário Inta

E-mail: rejaniavila@gmail.com

<sup>3</sup> Graduated in Nursing; Specialist in Urgency and Emergency and in Strategic Health Management

Institution: Previdelli Clinic

E-mail: deborapaiva1801@hotmail.com

<sup>4</sup> Specialist in Urgency and Emergency; ICU and Hospital Management

Hospital Regional Norte

E-mail: diego.pinheiro90@gmail.com

<sup>5</sup> Bachelor of Business Administration

Santa Casa de Misericórdia de Sobral

E-mail: leidianedepaiva@gmail.com

<sup>6</sup> Nurse Practitioner, Obstetric Nurse Specialist

Institution: Centro Universitário Inta

E-mail: lurdinhaacd@hotmail.com

<sup>7</sup> Nurse Practitioner, Obstetric Nurse Specialist

Institution: Centro Universitário Inta

E-mail: deluzavasconcelos@hotmail.com

<sup>8</sup> Nurse, specialist in operating room and sterilization material center

Hospital Regional Norte

E-mail: pixilha@hotmail.com

<sup>9</sup> Nurse, Master's student in health management at UECE, specialist in Intensive Care Nursing

Salute Courses and Consulting

E-mail: nanda\_nursing@hotmail.com



cases of Covid 19 is highlighted. To optimize the organization of the CC unit, information such as the signaling of suspected or confirmed cases of COVID-19 is now required to plan the logistics of patient care, including the exact amount of supplies, equipment, and instruments to be used. This information was included in the surgical notice, which consists of an instrument for communicating the procedure to the CC unit. The number of people in the OR was limited to the minimum team needed for the procedure and it was recommended that leftover surgical instruments and other reusable health products should be sent to the MSC in rigid containers, packed in milky white bags, identified as COVID-19. Subsequently, the tactical team of the sanitation and cleaning service, previously trained, should proceed with the terminal cleaning of the operating room, using the same product, standardized by the institution. It is considered that the elaboration, dissemination and implementation of the training of the protocol and checklist were essential and necessary for the adequacy of the health service. The construction of this new work process evidenced the importance of nurses in leadership, in the continuing education of teams, in the standardization and monitoring of work processes, and in coping with any and all adversities, especially in a surgical unit. Commitment, proactivity and collaborative actions were decisive for safe care, as well as for promoting adequate working conditions for all those involved in the process.

**Keywords:** Nursing, Transoperative, COVID-19.



## INTRODUCTION

The SARS-CoV-2 coronavirus, of the Covid-19 subtype, was first recorded in the city of Wuhan, China, in 2019, whose first cases were confirmed in January 2020. It is a virus of the order Nidovirales, of the Coronaviridae family, highly pathogenic and responsible for causing respiratory and gastrointestinal syndrome (LI *et al.*, 2020).

The rapid spread of Covid-19 has significantly affected people's lives and routines, both in daily hygiene behaviors such as the use of masks, hand washing with soap and water and application of hand sanitizer, as well as the social isolation of the population (OLIVEIRA; LUKE; IQUIAPAZA, 2020).

In the pandemic context, indirect transmission should be considered, as the virus is known to survive on different types of surfaces. Its viability can be influenced by the type of surface, ambient temperature, and relative humidity (MINISTRY OF HEALTH, 2020).

The Surgical Center (CC) is a hospital unit where anesthetic-surgical, diagnostic and therapeutic procedures are performed, both elective and urgent and emergency. Surgical practices were directly affected as a result of the COVID-19 pandemic, with the need to suspend elective procedures and prioritize urgent and emergency procedures, aiming to reserve beds for patients with respiratory infection (AGÊNCIA NACIONAL DE VIGILÂNCIA SANITÁRIA, 2020).

It is known that great challenges and limitations are found in managerial activities in operating room environments. This reality originates from conditions related to the work process itself, which is marked by unpredictability and the constant need for (re)planning and (re)organization of actions, in addition to the constant search for safety in the intraoperative period (MARTINS; DALL'AGNOL, 2016).

In this context, planning for the maintenance and resumption of surgical procedures in a safer way, both for patients and for the team of professionals, has become a challenge and has been based on new protocols, specific checklists, and practices for the prevention and control of SARS-CoV-2 transmission (AGÊNCIA NACIONAL DE VIGILÂNCIA SANITÁRIA, 2020).

Thus, in view of the need to care for patients with a confirmed or suspected diagnosis of COVID-19 in a surgical unit, the need arose to restructure and reorganize work logistics with planning and implementation of safety measures in the transoperative nursing care for suspected or confirmed COVID-19 patients, in a CC of a reference hospital in the North Zone of Ceará. Such actions consist of the systematization and detailed description of the processes of a unit that enables the standardization, reorganization of procedure techniques and provides greater safety for patients and collaborators involved in the process (PEREIRA, *et al.*, 2017).

Gong *et al.* (2020) consider that in the context of the SARS-CoV-2 pandemic, a protocol should be implemented for patients who require surgery, addressing preoperative preparation,



intraoperative management, and postoperative surveillance, with a view to avoiding complications and ensuring the safety of patients and health staff. Thus, this study aims to report the experience of transoperative nursing care for suspected or confirmed COVID-19 patients.

## **METHODOLOGY**

This is a descriptive study of the experience report type on the planning and implementation of safety measures in the transoperative nursing care of suspected or confirmed COVID-19 patients, in a CC of a reference hospital in the North Zone of Ceará, more specifically in the Northern Regional Hospital (HRN) It is the largest hospital in the interior of the Northeast Region, with more than 54 thousand square m<sup>2</sup> of built area, and is responsible for serving an estimated population of 1.6 million people, from the 55 municipalities that are part of the Northern macro-region of the State. Tertiary (attends to cases of medium and high complexity). It has 24-hour urgent and emergency care). It is a reference in pediatrics, thoracic surgeries, vascular surgeries and otorhinolaryngology (INSTITUTE OF HEALTH AND HOSPITAL MANAGEMENT, 2021).

For the construction of the Protocol and checklist, a literature review was carried out, based on institutional guidelines and standardizations, as well as recommendations established by the National Health Surveillance Agency (ANVISA) for adherence and adequacy of the best evidence for the local reality and pertinent in all stages of the intraoperative period. In this continuum, the document was evaluated and approved by the Hospital Infection Control Service (SCIH) and approved by the hospital's Quality Management, to which the CC unit is subordinate.

The checklist consisted of points such as: information such as the signaling of suspected or confirmed cases of COVID-19 for planning the logistics of patient care; verification of previous information so that the room contained only the exact amount of supplies, equipment and instruments to be used, guidance on dressing, undressing, use of PPE, comfort of instruments and cleaning of the room. This initial information was included in the surgical notice, which consists of an instrument for communicating the procedure to the CC unit.

## **RESULT AND DISCUSSION**

The Covid-19 pandemic had a significant impact on health services, which required, among other strategies, the suspension of elective surgical procedures and the maintenance of only anesthetic-surgical procedures on an urgent and emergency basis, as one of the means of preventing the spread of the pathology in health institutions.

In Brazil, the pandemic has highlighted the importance of protocols and strategies for patient and multidisciplinary team safety. And, the need to implement these in care, especially in anesthetic-surgical interventions of patients with a confirmed or suspected diagnosis of Covid-19. It is

noteworthy that each stage of the surgical act requires specific attention and care to avoid contamination of professionals and other users of the health system.

In this sense, it is understood that it was necessary to build protocols, checklists and training for the work teams, which in this period were trained by nurses working in the CC, carried out during working hours with small fragmented groups and moments of discussion of doubts. The moment consisted of the recruitment of professionals to compose the on-call staff due to the increase in the demand for care and the absence of professionals who were at risk for COVID, due to age, comorbidities and pregnancy, for whom training was offered in a more intensive and individualized way in order to make them safer and more empowered to serve these clients.

Such conduct followed the recommendation of ANVISA, which established a Technical Note No. 04/20 guidelines for health services: prevention and control measures that should be adopted during the care of suspected or confirmed cases of infection by the new coronavirus, considering that health professionals were on the front line with regard to the fight, follow-up and treatment of cases, however, adequate training on the checklist to be implemented, safety protocols, as well as standard precautionary techniques, contact and aerosols for the execution of care and the use of personal protective equipment in an appropriate and safe manner with a view to maintaining their health (BRASIL, 2020).

Following the protocol and checklist adopted, the nurse in charge of the sector remained in the external area, which precedes the operating room, to guide the team on the step-by-step of dressing, which ensured adherence and implementation of appropriate techniques for contact and aerosol precaution and strengthened the training already offered. The surgical team was dressed using the following PPE: cap, waterproof apron, goggles, face shield, N95 mask and overlapping surgical mask, gloves with long cuffs, closed and waterproof shoes, with the possibility of disinfection, according to the recommendations of ANVISA (BRASIL, 2020).

Ti *et al.* (2020) states that the safety of professionals who work in CC, in the care of patients diagnosed with COVID-19, should be ensured through adequate training on contact precaution techniques and aerosols, dressing and undressing, as well as PPE. The authors also highlight the need to use a specific operating room, with negative pressure, to perform procedures with airway manipulation in suspected and contaminated patients, in order to ensure the safety of professionals, which was adopted in the service and scored as relevant in the care process in the check list.

According to Coimbra *et al.* (2020) the above is very important and should be adopted by the multidisciplinary team to care for patients diagnosed with Covid-19, in order to avoid contamination of the environment and dissemination of the disease. Based on the care dynamics of the surgical unit, exclusive operating rooms (OR) were defined for the performance of surgical procedures in patients with suspected or confirmed cases of COVID-19, in compliance with ANVISA's recommendation,



and other rooms for elective procedures that cannot be postponed, elements included in the checklist. It should be noted that for verification, only strictly necessary equipment, instruments, furniture and medicines were kept, in order to reduce the number of items that could be cleaned, disinfected and sterilized or that could be discarded later

It was also adopted in the protocol that, prior to the transport and arrival of the patient with suspected or confirmed COVID-19 at the SC, the nurse and surgical team would check the organization of the OR and the availability of all supplies, equipment and staff necessary to perform the surgery, using a checklist. In addition, the defined team should be properly dressed to receive it. A nursing professional was included in the routine with the responsibility of receiving the patient and accompanying him/her, conducting the medical records, slips and exams wrapped in plastic bags. At this time, the guidance on the use of surgical masks was reinforced, both for professionals (stretcher bearer and nursing) and for the patient (SOBECC-BRAZILIAN ASSOCIATION OF NURSES IN THE SURGICAL CENTER, ANESTHETIC RECOVERY AND MATERIAL AND STERILIZATION CENTER, 2020).

The removal of PPE by professionals was recommended to be carried out according to COFEN (2020), which should be implemented, sequentially, in this order: gloves, apron or gown, cap or cap, goggles or face shield, surgical mask and respiratory protection.

The guidance of Wong *et al.* (2020) was also adopted for the undressing of the team, regarding avoiding touching the face or face before hand hygiene and after performing a spray bath. According to the study by Cunha *et al.* (2020) the instruments and materials for surgical intervention, after being used, should be sent to the Materials and Sterilization Center inside large, sealed plastic boxes, properly identified, with writing that is easy for the team to see, in order to carry out the appropriate disinfection and subsequent sterilization processes, in order to ensure the safety of the team and other users.

In addition, the prohibition of the use of adornments and the entry of personal objects, which could be potential means of spreading the virus, was emphasized. The number of people in the OR was limited to the minimum team required for the procedure and it was recommended that the surgeries be performed by the most experienced surgeon, in order to reduce the operative time and, consequently, the exposure of all, with the change of team members during surgeries being restricted to emergency cases (Agência Nacional de Vigilância Sanitária, 2020). The availability of a nursing technician as support in the external area of the OR was routinely implemented in order to maintain compliance with the precautions provided, minimize the risk of contamination and exposure of the employees involved, as well as to provide essential materials, equipment and supplies not foreseen for the surgical act ( CUNHA *et al.*, 2020).



The process of continuing education at this institution and, more specifically, at the CC, has undergone changes since the pandemic, especially due to the prevention measures recommended by the Ministry of Health, combined with social distancing. To this end, the health professionals who work in the CC were divided into small groups, with training, initially face-to-face and then online, with available technologies with the objective of clarifying doubts and improving knowledge for self-care and patient care with safety and quality (ROSA *et al.*, 2020).

## FINAL THOUGHTS

The elaboration and implementation of a protocol and checklist for the care of surgical patients, in the face of a public health emergency situation, presented a great challenge, especially due to the short period of time and the gaps in knowledge about SARS-CoV-2 at that time, but it provided a lot of learning, integration and strengthening of the sense of team.

The construction and experience of this new work process evidenced the importance of nurses in leadership, in the continuing education of teams, in the standardization and monitoring of work processes and in coping with any and all adversities, especially in a CC unit, in the search for biosafety measures for patients and health workers.

The commitment, proactivity, engagement and collaborative actions of the teams were decisive for the effective implementation of the np CC protocol and checklist and responses to its requirements. Therefore, it made it possible to continue, in a safer way, the surgical care to patients, as well as to promote adequate working conditions for all those involved in the care of these patients in this health institution. In addition, it reinforced the importance of care based on institutional protocols, which would allow the reduction of the risk of exposure to the virus

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