

**Use of information and communication technologies in nursing continuing education in the Intensive Care Unit
COVID-19**

*Uso de las tecnologías de la información y la comunicación en la formación continuada de enfermería en la Unidad de
Cuidados Intensivos COVID-19*

*Uso das tecnologias da informação e comunicação na educação continuada em enfermagem em Unidade de Terapia
Intensiva COVID-19*

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The aim was to report the experience of using information and communication technologies in continuing education in nursing in an intensive care unit to care for patients diagnosed with COVID-19 in a university hospital located in Rio de Janeiro. Descriptive, narrative, experience report type. The reflection scenario was one of the intensive care units designed to treat patients with COVID-19 at a federal university hospital located in the city of Rio de Janeiro. To disseminate nursing care routines as quickly as possible to temporary outsourced nursing professionals, information and communication technology tools were used, so the hospital's nursing managers have improved to use these new technological resources to provide adequate safety for the COVID-19 patient. Information and communication technology tools help health institutions in disseminating to temporary contracted nursing professionals the determinations necessary for care processes to occur correctly, especially during the COVID-19 pandemic.

Descriptors: Continuing Education in Nursing; Information Technology; Coronavirus Infections; Nursing; Critical Care.

Resumen

El objetivo fue reportar la experiencia del uso de las tecnologías de la información y la comunicación en la educación continua en enfermería en una unidad de cuidados intensivos para el tratamiento de pacientes diagnosticados con COVID-19 en un hospital universitario ubicado en Río de Janeiro. Tipo de informe descriptivo, narrativo y de experiencia. El escenario de reflexión fue una de las unidades de cuidados intensivos diseñadas para tratar pacientes con COVID-19 en un hospital universitario federal ubicado en la ciudad de Río de Janeiro. Para difundir lo más rápido posible las rutinas de cuidados de enfermería a los profesionales de enfermería subcontratados temporalmente, se utilizaron herramientas de tecnologías de la información y la comunicación, por lo que los gerentes de enfermería del hospital han mejorado para utilizar estos nuevos recursos tecnológicos con el fin de brindar una adecuada seguridad al paciente COVID-19. Las herramientas de tecnología de la información y la comunicación ayudan a las instituciones de salud a difundir a los profesionales de enfermería contratados temporalmente las determinaciones necesarias para que los procesos de atención se desarrollen correctamente, especialmente en medio de la pandemia de COVID-19.

Descriptores: Educación Continuada en Enfermería; Tecnología de la Información; Infecciones por Coronavirus; Enfermería; Cuidado Crítico.

Resumo

Objetivou-se relatar a experiência do uso das tecnologias da informação e comunicação na educação continuada em enfermagem em uma unidade de terapia intensiva para atender pacientes diagnosticados com COVID-19 em um hospital universitário localizado no Rio de Janeiro. Descritiva, narrativa, do tipo relato de experiência. O cenário de reflexão foi uma das unidades de terapia intensiva destinadas a atender pacientes com COVID-19 de um hospital universitário federal localizado na cidade do Rio de Janeiro. Para divulgar rotinas assistenciais de enfermagem da maneira mais rápida possível para os profissionais de enfermagem terceirizados temporários foram utilizadas ferramentas da tecnologia da informação e comunicação, por isso os gestores de enfermagem do hospital se aprimoraram para usar esses novos recursos tecnológicos a fim de proporcionar adequada segurança para o paciente de COVID-19. As ferramentas da tecnologia da informação e comunicação auxiliam as instituições de saúde na disseminação para os profissionais de enfermagem contratados temporários das determinações necessárias para que os processos assistenciais ocorram de forma correta, principalmente em meio à pandemia da COVID-19.

Descriptores: Educação Continuada em Enfermagem; Tecnologia da Informação; Infecções por Coronavírus; Enfermagem; Cuidados Críticos.



Introduction

In March 2020, the COVID-19 virus spreads to several countries causing a pandemic. The invisible came causing respiratory disease, death and its high lethality has a range of risk groups such as the elderly, pregnant women, immunocompromised and people with comorbidities¹. The high transmissibility, the proportion of infected people, the inexistence of vaccine, the inexistence of effective drug therapy, provoked measures of social isolation, with the determination of the functioning of essential services only².

The proof that there is a Unified Health System (SUS) that is still alive comes from the deliberation of a decree with measures to face this public health emergency, COVID-19. The premise is based on health as a right for all and a duty of the State, which aims to follow the guidelines for comprehensive, universal, and equal care in the SUS. One of the measures adopted included the temporary hiring of outsourced healthcare professionals, mainly in the nursing category, and the construction of field hospitals³.

Through a contract notice and agreements previously established between the municipality of Rio de Janeiro and two federal hospitals, one of which is a university hospital, they received part of these human resources to meet the demand for assistance to the population received through the regulation of beds in the system, in addition to replacing the absence of public servants on sick leave, including COVID-19, or because they belong to the group of people considered at risk³.

Nursing has been around for centuries and has evolved considerably since Florence's birth. In 2020, Florence Nightingale's bicentennial was celebrated, and the World Health Organization (WHO) emphasizes the importance of nursing in health services in which the contributions of these professionals are optimized to achieve the population's health goals⁴. The nursing team represents about 59% of the global workforce in the health field and are those who remain 24 hours a day, alongside people who use health services, from birth to after death, providing care with the postmortem body⁵.

A federal university hospital located in Rio de Janeiro had a significant reduction in its number of nursing professionals, on leave due to a suspected or confirmed case of COVID-19 or because they belong to the group vulnerable to the disease, in this context there was a need to assemble teams mixed composed by professionals from different origins, with different routines and experiences⁶.

The institution was mobilized in the expansion and organization of beds in intensive care units and high complexity, designed to serve patients affected by COVID-19. To meet the need to serve the population in the pandemic, the Nursing Division has articulated management strategies, relying on its teams of care coordinators. In this way, work processes were standardized and simplified to optimize time and resources and to facilitate the absorption of the necessary technical-scientific knowledge⁶.

Given this diversity and challenge faced by the local care coordination, the motivation for the study emerged, whose objective is to report the experience of using information and communication technologies in continuing

education in nursing in an intensive care unit (ICU) to care for patients diagnosed with COVID-19 in a university hospital located in Rio de Janeiro.

Methodology

The study is configured as descriptive, narrative, of the experience report type. The research field was one of the ICUs designed to treat patients with COVID-19 at a federal university hospital located in the city of Rio de Janeiro. Due to the situation of public calamity, the hospital harmonized its spaces, wards were transformed into intensive care beds with the aim of expanding highly complex beds. The period of experience of these changes that enabled the construction of this report was from April to July 2020.

Experience Report

The construction and deconstruction of the controlled environment of a new adapted intensive care, tested knowledge, human and professional limits, ethics, as well as the interpersonal relationship of the care coordination and its nursing team. Dealing with the powerful and unbeatable virus and still balancing the emotions, brought the certainty that the phrase "only the strong survive", points out how much nursing needs to strengthen emotional intelligence. As much as the social networks point to "Nursing for love" alluding to charity, this only shows us how much we need to appropriate technical-scientific knowledge, spirituality, and resilience, to continue to occupy the complex panorama of public health. The most common phrase in this pandemic was the comparison of the critical moment to the war scenario, with the difference that the enemy was not easy to be fought.

Review studies carried out in the pandemic, on the mental health of health professionals, point out that frontline professionals need to have socio-emotional skills and that this grouping of behaviors comes from an education of self-knowledge and knowledge of the other, as they deal with suffering it often becomes challenging, placing the professional in a situation considered vulnerable^{7,8}.

Another study points out that the lack of infrastructure, personal protective equipment and the term "quarantine" give rise to fear and apprehension in the face of the possibility of illness by the virus⁹. The nursing managers of the university hospital, aiming at the compliance and determination of the Federal Council of Nursing (COFEN), were concerned with optimizing the assistance of human resources, materials, and personal protective equipment. Thus, the adequacy of spaces, flows, and teams to guarantee nursing care.

The challenges were daily and so were the uncertainties, questions such as: What should be a way to engage an "unknown" group of non-servers? How to train them? How to maintain standardization and compliance with care protocols? The profile of these professionals was diverse, with those with and without experience in intensive care and those whose situation served to reinsert them into the labor market.

In this public-private partnership, on average, medical-care equipment was received and, at first, only 139



nursing professionals were hired for the referred unit to work in 2 shifts (24x120 and 12x60) that included the day and night shifts.

Communication is a necessity and something that has been present in the human being's life since the most remote times. Exchanging information, recording facts, expressing ideas and emotions are factors that have contributed to the evolution of ways to communicate. So, over time, man has perfected his ability to relate⁶. Information and communication technology (ICT) is an area that uses computing to produce, transmit, store, and use various information. Any technology that generates the flow, storage or processing of information using software, favors the reduction in the use of labor and thus favors sustainability^{10,11}.

To transmit nursing care routines as quickly as possible to professionals, ICT tools were used, such as: WhatsApp groups, E-mail, among others. These tools included standard operating procedures (SOPs), infusion pump manuals, care printouts, as well as opportunities for free distance learning courses on the topics. Institutional courses were offered by the group responsible for monitoring the integrity and evaluating skin lesions in hospitalized patients and by the hospital infection control committee regarding preventive measures for Health Care Related Infections (IRAS).

The hospital in question has an electronic medical record with records of all information related to care from all professional categories that had contact with the hospitalized patient. So that the conducts outlined in the prescriptions of nursing care could also reach this care group as soon as possible, short videos were recorded with the basic commands on how to proceed according to the event so that doubts ceased.

These videos were made available to those responsible for the shifts. This is a quick and simple way to keep the unity and learning among peers, as well as the

motivation to want to be a multiplier. Another advantage of using ICT is sustainability, this way we can avoid wasting paper, toner, and mess in the sector.

An integrative review study showed benefits in nursing care from the use of ICTs in continuing education in nursing and that these teaching modalities have an impact on the acquisition of knowledge and skills with favorable results for the care provided¹².

It is worth adding that the professional evaluation forms provided by the contracting outsourced companies were also used as an instrument for feedback to these individuals on the quality of their work, how much they had assimilated institutional care routines or not and what they still needed to improve their knowledge technical-scientific.

The care coordination of the listed ICU met daily with the nursing staff of the current shift to strengthen the approach by removing doubts, introducing new professionals and/or reinforcing some new service routine. The presence and access of the coordination to the sector is a fundamental point for strengthening ties and communication vehicles.

Conclusion

This report aims to demonstrate how the use of these new ICT tools can help the management of professional care contexts when there is little time to disclose so many guidelines and determinations for a category. Therefore, it is up to ICU managers to improve their way of using these new technological resources to provide adequate safety for hospitalized patients, especially those considered critical and with COVID-19.

The institution's investment in the creation of digital informational applications that contain nursing care protocols could help continuing education in nursing, since one of the goals of the university hospital is its role in the teaching-learning of professionals who are allocated to it.

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