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LINKING WORKER SAFETY TO PATIENT SAFETY: RECOMMENDATIONS AND BIOETHICAL ISSUES FOR THE CARE OF PATIENTS IN THE COVID-19 PANDEMIC

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ABSTRACT

Objective: the aim of this article is to discuss the implications of the connection between safety and bioethical issues for evidence-based care during the COVID-19 pandemic.
Method: reflective analysis with the guiding question: "How can professional and patient safety be linked to bioethical issues during the COVID-19 pandemic?"
Results: the COVID-19 pandemic has challenged countries around the world, mainly due to the collapse of the health system that could threaten the safety of patients and healthcare providers. Connecting worker safety to patient safety is imperative for safe care during the COVID-19 pandemic. Aspects related to professional qualification and the provision and proper use of personal protective equipment permeate an environment of economic and political crisis that accentuates tensions and can interfere in decision-making, greatly affecting the results of the care provided. This article presents reflections and recommendations to support healthcare providers in making decisions that involve bioethical issues during the care process in times of scarce resources generated by the COVID-19 pandemic.

DESCRIPTORS: Coronavirus infections. Occupational health. Pandemic. Patient safety. Safety management. Recommendations. Bioethical issues.

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VINCULANDO A SEGURANÇA DO PROFISSIONAL À SEGURANÇA DO PACIENTE: RECOMENDAÇÕES E QUESTÕES BIOÉTICAS PARA O CUIDADO DE PACIENTES NA PANDEMIA DA COVID-19

RESUMO

Objetivo: o objetivo deste artigo é discutir as implicações da conexão entre a segurança e as questões bioéticas para o cuidado baseado em evidências durante a pandemia da COVID-19.
Método: análise reflexiva com a questão norteadora: "Como a segurança do profissional e do paciente pode vincular-se às questões bioéticas durante a pandemia da COVID-19?"
Resultados: a pandemia da COVID-19 desafiou países ao redor do mundo, principalmente devido ao colapso do sistema de saúde que poderia ameaçar a segurança de pacientes e profissionais de saúde. Conectar a segurança do profissional à segurança do paciente é um imperativo para um atendimento seguro durante a pandemia da COVID-19. Aspectos relacionados à qualificação profissional e ao fornecimento e uso adequado dos Equipamentos de Proteção Individual permeiam um ambiente de crise econômica e política que acentua tensões e pode interferir na tomada de decisões, afetando sobremaneira os resultados da assistência prestada. Este artigo apresentou reflexões e recomendações para apoiar os profissionais de saúde na tomada de decisões que envolvam questões bioéticas durante o processo de cuidar em tempos de recursos escassos gerados pela pandemia da COVID-19.

DESCRITORES: Infecções por coronavírus. Saúde ocupacional. Pandemia. Segurança do paciente. Gestão da segurança. Recomendações. Questões bioéticas.

VINCULANDO LA SEGURIDAD DEL PROFESIONAL A LA SEGURIDAD DEL PACIENTE: RECOMENDACIONES Y CUESTIONES BIOÉTICAS PARA EL CUIDADO DE PACIENTES EN LA PANDEMIA DEL COVID-19

RESUMEN

Objetivo: el objetivo de este artículo es discutir las implicaciones de la conexión entre la seguridad y las cuestiones bioéticas para el cuidado basado en evidencias, durante la pandemia del COVID-19.
Método: análisis reflexivo con la pregunta orientadora: "¿Cómo la seguridad del profesional y del paciente puede vincularse a cuestiones bioéticas, durante la pandemia del COVID-19?"
Resultados: la pandemia del COVID-19 desafió a los países, alrededor del mundo, principalmente debido al colapso del sistema de salud, lo que podría amenazar la seguridad de pacientes y profesionales de la salud. Conectar la seguridad del profesional a la seguridad del paciente es un imperativo para una atención segura durante la pandemia del COVID-19. Aspectos relacionados a la calificación profesional, al suministro y al uso adecuado de los Equipamientos de Protección Individual, permean un ambiente de crisis económica y política que agudiza tensiones y puede interferir en la toma de decisiones, afectando especialmente los resultados de la asistencia prestada. Este artículo presenta reflexiones y recomendaciones para apoyar a los profesionales de la salud en la toma de decisiones, en que participan cuestiones bioéticas durante el proceso de cuidar en tiempos de recursos escasos generados por la pandemia del COVID-19.

DESCRIPTORES: Infecciones por coronavírus. Salud ocupacional. Pandemia. Seguridad del paciente. Gestión de la seguridad. Recomendaciones. Cuestiones bioéticas.

INTRODUCTION

In late 2019, the new coronavirus, called Severe Respiratory Distress Syndrome - Coronavirus 2 (SARS-CoV-2), gave rise to an acute respiratory epidemic in Wuhan, China. On February 11, 2020, the World Health Organization (WHO) called this disease the Coronavirus-19 Pandemic, publicly known as COVID-19[1]. On February 1, 2021, more than 102 million confirmed cases and 2.0 million deaths worldwide had been reported by the WHO[2]. The highest incidence was in the Americas, followed by the continents of European, Southeast Asia and the Eastern Mediterranean Western Pacific and Africa. In Brazil, by February 1, 2021,9,176,975 cases and 223,945 deaths had been recorded due to COVID-19[2].

Due to the rapid transmission and morbidity and mortality, the collapse of Health Care Systems (HCS) had been observed in many countries affected by the pandemic. This was evidenced by the lack of availability of diagnostic tests and ward and intensive care units (ICU) hospital beds necessary for adequate care for patients with intermediate and severe forms of the disease. There was also a lack of specialized and trained human resources and the provision of personal protective equipment (PPE) and training for its proper use[3–4].

The Brazilian Health Ministry (HM), since the declaration of the pandemic, has been directing efforts to prepare the Brazilian Nation Health System (*Sistema* Único *de Saúde* - SUS) in serving the population. The projection of the HM, based on the evolution of the coronavirus in other countries, is that one in 20 people will develop a severe respiratory condition and will need an ICU bed. However, Brazilian states with more structured hospital networks are unable to provide hospital care without reinforcement. Furthermore, Brazil needs to deal, in parallel, with beds occupied by patients with pre-existing needs, in addition to not having respiratory isolation per bed in the ICU. This scenario makes the situation even more challenging and requires hospitals to quickly adapt to confront the crisis. For example, ward beds need to be converted into ICU beds for the care of patients with COVID-19. However, such emergency changes can jeopardize the safety of the patients and healthcare providers and trigger bioethical decisions[3].

A parallel problem experienced in China, Brazil and other countries, is the scarcity of qualified and trained human resources to assist seriously ill patients with COVID-19. Until the crisis, there were approximately 300 ICU physicians and 1,000 ICU nurses in the city of Wuhan. By the end of January, more than 600 Chinese physicians and 1,500 nurses had been relocated to critical care units[5].

The lack trained healthcare providers who have the skills and the training to deal with respiratory failure has forced the workers to prioritize the care to these patients. In addition, prior to the pandemic, there would be one or two nurses per patient on a respirator, as these patients require constant attention. With the pandemic, it has become common to observe one nurse per 10 patients. Considering this scenario, healthcare providers are facing difficult decisions regarding who to treat first. Accordingly, experts recommend a framework that helps healthcare workers ration their care time and prioritize patients for attention[4].

There are other issues that need to be considered for the safe care of patients with COVID-19. These issues involve access to equipment and supplies necessary for the care of patients and an urgent need for them to be used safely. Adequate production and distribution of ventilators and personal protective equipment (PPE) are crucial to caring for patients during the pandemic[6]. However, there has been a lack of adequate PPEs for frontline healthcare workers in several countries[6–7], with this shortage threatening the safety of both healthcare providers and patients.

There has been a lot of information available in relation to lessons learned in preventing healthcare associated adverse events, however, there is limited information available on the connection between frontline healthcare provider safety and patient safety. The goal of this paper is to discuss the implications of this connection for evidence-based care during the COVID-19 pandemic and the bioethical aspects of treatment decisions.

REFLECTION

COVID-19 pandemic: is the safety of healthcare worker and patients threatened?

Worker and patient safety are inextricably linked and efforts to reduce healthcare related adverse events and improve patient safety must be linked with efforts to prevent work-related harm and illness[8]. In this context, healthcare providers have been working under extreme pressure and they must have their most basic needs fulfilled in order to provide safe and ethical care to patients. Despite this, a major impasse that professionals have faced during the COVID-19 pandemic is the fear of contamination caused by an unsafe work environment, as the crisis on a global scale has caused a shortage of PPE[9],leading to the transmission of SARS-CoV-2 in the hospital environment, illness and death among healthcare providers[10].

According to the Centers for Disease Control and Prevention (CDC), it is estimated that more than 9,200 US healthcare workers had been infected with COVID-19 by early April, 90% were not hospitalized, 184 were admitted to the ICU and 27 died[11]. In China, by April 3, a total of 23 healthcare providers had died from COVID-19 after they became infected during their medical work in Wuhan and elsewhere in China[12]. In Italy, 20% of responding healthcare workers were infected, and some died[13]. By April 17, Brazil had recorded at least 30 deaths of nursing professionals caused by COVID-19 and there were more than 4,800 complaints of lack of PPE for the work, according to the Brazilian Nursing Council[14].

There are several published guidelines orienting the use of PPE, in addition to general guidelines for assisting patients with COVID-19, a fact that can cause confusion and stress in decision making, in addition to exposing the professionals and patients to risks. Accordingly, aiming for greater safety and standardization for health professionals and services, the WHO developed rules for the prevention and control of disease transmission, which include: the adoption of precautions for droplets and contact and for aerosol-generating procedures; provision of surgical masks for suspected patients and the performance of hand hygiene with soap and water or alcohol solution after contact with respiratory secretions. For greater safety of the healthcare providers, patients should remain in isolated beds, preferably with negative pressure. If these beds are unavailable, patients should be placed one meter apart[15]. In addition, the number of family members visiting should be limited[15].

The recommended PPE for healthcare providers that are in contact with aerosol-generating procedures are N95 or PFF2 masks, gloves, long sleeved aprons and safety glasses or face shields. After patient care, all PPE must be correctly disposed of, and hand hygiene performed. If it is necessary to share equipment between patients, such as thermometers or stethoscopes, cleaning, and disinfection with 70% alcohol should be carried out after use with each patient. Furthermore, the WHO recommends that professionals that assist patients with COVID-19, should be assigned to these patients only, to avoid cross contamination[15].

Some aerosol-generating procedures (AGP) have been associated with an increased risk of transmission of coronaviruses (SARS-CoV and MERS-CoV), such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation prior to intubation and bronchoscopy. Therefore, it is recommended that health professionals avoid using a Venturi mask and

high-flow nasal cannula (HFNC). If the patient presents desaturation prior to orotracheal intubation, it is recommended that the professional use a non-rebreather mask with reservoir and oxygen flow as low as possible to maintain oxygen saturation (SpO_2) greater than 93%. In addition, intubation should be performed quickly and by an experienced physician; the patient should be connected to the ventilator, preferably with an appropriate filter at the outlet of the expiratory circuit to the environment (HME filter) and the suction system must be of the closed type (trach-care)[15].

It is also recommended that the healthcare provider use the maximum PPE that is available when undertaking or assisting with an AGP or working in high-risk areas where AGPs are being conducted, including the ICU or the hot zone of an Emergency Department[6]. However, the global shortages of PPEs needed to tackle COVID-19 may provide challenges to bioethical decision-making to fulfill all patients' clinical needs in the context of the pandemic.

In view of this scenario, the possibility of scarcity or shortage of N-95 masks, the WHO has recommended the rational use of PPE for COVID-19, which includes the prolonged use of masks (N95 and FFP2 or equivalent), without removing them during AGP, for up to 4 straight hours, during the emergency period of COVID-19 and when there is a lack of this PPE. This same recommendation should be followed when caring for several patients with suspected or confirmed COVID-19 diagnosis[16].

In the absence of appropriate PPE, or in cases of improper PPE use, healthcare providers face increased risks of harm. Appropriate PPE is considered an effective risk mitigating strategy when used properly[17], therefore, minimizing the risk and exposure of healthcare providers and creating a safe and high-quality healthcare environment can protect patients and their families. Therefore, efforts should prioritize the quantity of appropriate PPE for health workers who care for patients with COVID-19.

It has been observed, however, that countries with continental dimensions with varied economic, cultural, social and health realities experience management problems that can be aggravated faced with the pandemic. For example, in Brazil, these challenges have been directly reflected in the installed capacity of the health system. In addition, the political crisis can impact the resilience of the healthcare system itself, generating disagreements, uncertainties, and instability among the three branches (Executive, Legislative and Judiciary) and the federal bodies. The absence of formal hiring of qualified professionals also represents a challenge to guarantee safe care in the health services. Emergency and provisional contracts reflect in the training and evaluation of these professionals by the public financier, which often leads to low-qualified technical teams. In addition, political-party interference has been observed, which can influence the quality of care and impact clinical decision-making and the safety of patients and healthcare providers[18].

Therefore, it is vital that governments see workers not simply as employees and the safety of healthcare providers must be ensured. Adequate provision of PPE is just the first step; other practical measures must be considered, including provision of food, rest and family and psychological support. Presently, health workers are the most valuable resources of the healthcare services and should be valued considering their safety and that of the patient[13].

Bioethical issues for the care of patients during the covid-19 pandemic

Providing care to existing standards is likely to be difficult[19] and making rationing decisions during the COVID-19 pandemic may be professionally challenging because providers may feel legally vulnerable[4]. Experts recommend that the ethical decision-making process be developed in anticipation of making complex decisions, rather than in reaction to the need to make a decision[20]. In this context and despite its limitations, the principlist bioethics framework can assist the decision-

making process of healthcare providers based on the principles of non-maleficence, beneficence, respect for autonomy, and justice, aiming for the highest quality of ethical deliberation[21–22]. Therefore, the question arises: how can medical resources be allocated during the COVID-19 pandemic without harming others and aiming to help consolidate the legitimate interests of those involved (healthcare providers and patients)? The previously mentioned scarcity of PPE for healthcare providers that work with COVID-19 patients is one of the emerging issues regarding the allocation of resources, given that these workers are exposed to high viral loads and are susceptible to more serious diseases. In these conditions, the debate on "the duty to care versus the right to protection" focuses on whether healthcare providers have a duty to care even when the health system does not protect their health and safety through the adequate provision of PPE[23].

The conflict posed has a close connection with the worker's individual right and their objective duty of care, especially based on the bioethical principle of beneficence, in which it is necessary to maximize the benefits of those involved, avoiding danger and reducing harm to both parties[24]. From this perspective, the greatest chance of maximizing benefits occurs when healthcare providers are able to balance their multiple functions, such as the duty to care for patients and the duty to protect themselves from being infected, in order to remain productive during the pandemic period, also considering their duty to protect their friends, family and neighborhoods and their duty to society in general[24]. Therefore, healthcare providers have a moral obligation to provide health services in times of need, as in the current pandemic. However, they also have the right to be protected from harm to themselves, as this is the only way they can continue to serve society. There is an emerging consensus in different international guidelines that the duty to care during the pandemic must be voluntary and associated with the reciprocity of the health system (adequate supply of PPE, adequate working hours, with monetary and non-monetary incentives) to protect healthcare providers[25].

The ethical principles of public health guide the adoption of deliberations that seek to balance the existing pressure between the needs, rights and duties of the person and the group. Although all health resources are limited in the current reality, when faced with public health emergencies these can be further reduced, being insufficient to save lives that, under normal conditions, could be saved[26]. Many organizations agree that worker safety should be considered part of the patient safety movement[9], as adequate staff and resources and administrative support have been shown to improve patient outcomes[10]. During the COVID-19 pandemic, it is extremely important to encourage a resilient and compassionate work environment to support healthcare providers in providing an ethical and quality standard of care[27].

Among the bioethical principles that can support the decision-making process of healthcare providers, in this study, the search for maximizing benefits is emphasized, based on the values of equality and equity, as well as the prioritization of patients that are more serious. These considerations yield six specific recommendations for allocating medical resources in the COVID-19 pandemic: to maximize benefits; to prioritize health workers; to not allocate on a first come, first-served basis; to be responsive to evidence; to recognize research participation; and to apply the same principles to all COVID-19 and non-COVID-19 patients[19].

The first Recommendation, to maximize benefits, should include saving more lives and more years of life, with this being a consensus value through expert reports. Therefore, operationalizing the value of maximizing benefits means that people that are sick but could recover if treated are given priority over those that are unlikely to recover even if treated and those that are likely to recover without treatment[19]. In these situations, physicians are pressured to make morally biased decisions regarding the allocation of scarce resources based on their ability to save many lives[25]. However,

these decisions have a significant impact on the healthcare providers and the community. In this context, local guidelines should be developed to support healthcare providers in taking decisions that are relevant and acceptable to their community[19]. The Second Recommendation is that critical COVID-19 interventions, including testing, PPE, ICU beds, ventilators, therapeutics, and vaccines should go first to front-line healthcare workers and others that care for sick patients and that keep the critical infrastructure operating. Workers that face a high risk of infection and whose training makes them difficult to replace should be given priority, as these workers are essential to the pandemic response[19]. According to the Third Recommendation, for patients with similar prognoses, equality should be invoked and operationalized through random allocation. The Fourth Recommendation is about prioritization guidelines that should differ by intervention and should respond to changing scientific evidence. Currently, the Federal guidance gives priority to healthcare workers and older patients.

The Fifth Recommendation affirms that people who participate in studies to investigate the safety and effectiveness of vaccines and therapeutics should receive some priority for interventions because they assume a risk during their participation in research and help future patients, with a need to reward them for this contribution. The Sixth Recommendation is that there should be no difference in allocating scarce resources between patients with COVID-19 and those with other medical conditions. If the COVID-19 pandemic leads to absolute scarcity, that scarcity will affect all patients, including those with heart failure, cancer, and other conditions, with the aim to save as many people as possible in this situation[19].

Healthcare institutions are crucial to our society's ability to withstand and recover from public health emergencies. Support for ethical practice is crucial for healthcare integrity and the well-being of the healthcare workforce. Recognizing and addressing the special challenges healthcare providers face in responding to COVID-19 is part of the healthcare leadership and civic duty[23].

It is essential that employers take steps to provide appropriate support because frontline healthcare workers are already overstretched and the ability of the health system to respond to the pandemic will be dependent upon their well-being[28]. These ethical issues can be the cause of serious moral distress among workers. Therefore, clinical ethics committee support and psychological support may be necessary for all healthcare providers working during the pandemic, as many of them may find working in the unfamiliar and strenuous conditions of a pandemic both practically difficult and morally and emotionally challenging. Therefore, special attention should be given to the healthcare provider that is on the frontline of the COVID-19 pandemic[29]. In this scenario, it is crucial to recognize the level of uncertainty and anguish that the pandemic can cause and that healthcare providers must receive support to overcome all the different bioethical challenges they face in their professional practice.

CONCLUSION

Connecting worker safety to patient safety is an imperative for safe care during the COVID-19 pandemic. The shortfall in the availability of PPE and critical care trained healthcare providers available to manage the increased numbers of critical COVID-19 patients, inadequate time for rest and recuperation, little support and assistance, and limited considerations for mental health and well-being are risk factors for healthcare workers and for patients. Therefore, providing safe, evidence-based care, in an uncertain scenario and with increasingly scarce resources constitutes a challenge for the

HCS. Furthermore, the scarcity of material resources needed for the care and qualified professionals can impact decision-making and ethical behavior.

Healthcare providers must recognize ethical conflicts and understand the moral values involved in care, especially in crisis situations, such as the COVID-19 pandemic. Furthermore, the leaders of the healthcare organization play a significant role in safety performance and for that reason should support teams by setting the standards of safe behavior and establishing a strong safety culture based on the principle of human dignity and the values of the community involved.

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NOTES

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CONFLICT OF INTEREST

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