Original Article

TEXTO & CONTEXTO ENFERMAGEM
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CHALLENGES AT THE FRONT: EXPERIENCES OF PROFESSIONALS IN ADMITTING PATIENTS TO THE INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

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ABSTRACT

Objective: to know the perspectives, practices and challenges in decision-making for admitting patients into the Intensive Care Unit during the Covid-19 pandemic.
Methods: a qualitative study developed in two public hospitals in Maranhão, Brazil, from November/2020 to January/2021. Data collection took place through individual interviews guided by a script. A total of 22 professionals participated in the study: nurses and doctors who worked in the Intensive Care Unit and Bed Regulation in the first wave of the pandemic. Content Analysis was used in the thematic mode, with support from the Qualitative Data Analysis software program for data categorization. The theory of Responsibility for Reasonableness guided the study.
Results: two main categories emerged: “The context of the decision-making process - the paradox of celestial discharges” and “Decision-making for admission”. In the scenario of high demand, a lack of beds, and the uncertainties of the “new disease”, deciding who would occupy the bed was arduous and conflicting. Clinical and non-clinical criteria such as severity, chance of survival, distance to be covered and transport conditions were considered. It was found that the ambivalence of feelings attributed to death and care at that moment of the pandemic marked the social and technical environment of intensive care.
Conclusions: the complexity of the decision-making process for admission to an intensive care unit was evidenced, demonstrating the importance of analyzing the allocation of critical resources in pandemic scenarios. Knowing the perspectives of professionals and their reflections on the experiences in that period can help in planning the allocation of health resources in future emergency scenarios.

DESCRIPTORS: Covid-19. Intensive Care Units. Decision making. Beds. Patient admission.

HOW CITED: Pereira JFS, Carvalho RHSBF, Pinho JRO, Thomaz EBAF, Lamy ZC, Soares RD, et al. Challenges at the front: experiences of professionals in admitting patients to the intensive care unit during the COVID-19 pandemic. Texto Contexto Enferm [Internet]. 2022 [cited YEAR MONTH DAY]; 31:e20220196. Available from: https://doi.org/10.1590/1980-265X-TCE-2022-0196en

DESAFIOS DO FRONT: EXPERIÊNCIAS DE PROFISSIONAIS NA ADMISSÃO DE PACIENTES EM UNIDADE DE TERAPIA INTENSIVA NA PANDEMIA DA COVID-19

RESUMO

Objetivo: conhecer perspectivas, práticas e desafios na tomada de decisão para admissão de pacientes em leitos de Unidades de Terapia Intensiva na pandemia da Covid-19.
Métodos: estudo qualitativo, desenvolvido em dois hospitais públicos do Maranhão, Brasil, de novembro/2020 a janeiro/2021. A coleta de dados ocorreu por meio de entrevistas individuais guiadas por roteiro. Participaram do estudo 22 profissionais: enfermeiros e médicos que atuaram em Unidade de Terapia Intensiva e Regulação de Leitos na primeira onda da pandemia. Empregou-se a Análise de Conteúdo na modalidade temática, com apoio do *Qualitative Data Analysis Software* para categorização dos dados. A teoria da Responsabilidade pela Razoabilidade norteou o estudo.
Resultados: emergiram duas categorias principais: "Contexto do processo decisório - o paradoxo das altas celestiais" e "Tomada de decisão para admissão". No cenário de alta demanda, insuficiência de leitos e de incertezas da "nova doença", decidir quem ocuparia o leito era árduo e conflitante. Critérios clínicos e não clínicos, como gravidade, chance de sobrevivência, distância a ser percorrida e condições do transporte foram considerados. Constatou-se que a ambivalência de sentimentos atribuídos à morte e ao cuidado, naquele momento da pandemia, marcaram o ambiente social e técnico da terapia intensiva.
Conclusões: evidenciou-se a complexidade do processo decisório para admissão em unidade de terapia intensiva, demonstrando a importância de analisar a alocação de recursos críticos em cenários pandêmicos. Conhecer as perspectivas dos profissionais e as reflexões deles sobre as experiências naquele período podem auxiliar no planejamento de alocação de recursos de saúde em cenários emergenciais futuros.

DESCRITORES: Covid-19. Unidades de Terapia Intensiva. Tomada de decisão. Leitos. Admissão do paciente.

DESAFÍOS DELANTEROS: EXPERIENCIAS DE PROFESIONALES EN EL INGRESO DE PACIENTES EN LA UNIDAD DE CUIDADOS INTENSIVOS EN LA PANDEMIA DEL COVID-19

RESUMEN

Objetivo: conocer perspectivas, prácticas y desafíos en la toma de decisiones para el ingreso de pacientes a camas en Unidades de Cuidados Intensivos en la pandemia de COVID-19.
Métodos: un estudio cualitativo, desarrollado en dos hospitales públicos de Maranhão, Brasil, de noviembre/2020 a enero/2021. La recolección de datos se realizó a través de entrevistas individuales guiadas por un guión. Un total de 22 profesionales participaron en el estudio: enfermeros y médicos que actuaban en la Unidad de Cuidados Intensivos y Regulación de Camas en la primera ola de la pandemia. Se utilizó el Análisis de Contenido en la modalidad temática, con apoyo del Software de Análisis Cualitativo de Datos para la categorización de los datos. La teoría de la Responsabilidad por la Razonabilidad guió el estudio.
Resultados: surgieron dos categorías principales: "El contexto del proceso de toma de decisiones - la paradoja de los altos celestes" y "Toma de decisiones para la admisión". En el escenario de alta demanda, escasez de camas e incertidumbres de la "nueva enfermedad", decidir quién ocuparía la cama fue arduo y conflictivo. Se consideraron criterios clínicos y no clínicos, como gravedad, probabilidad de supervivencia, distancia a recorrer y condiciones de transporte. Se constató que la ambivalencia de los sentimientos atribuidos a la muerte y al cuidado, en ese momento de la pandemia, marcaron el ambiente social y técnico de la terapia intensiva.
Conclusiones: se evidenció la complejidad del proceso de toma de decisiones para el ingreso a una unidad de cuidados intensivos, demostrando la importancia de analizar la asignación de recursos críticos en escenarios de pandemia. Conocer las perspectivas de los profesionales y sus reflexiones sobre las experiencias en ese período puede ayudar en la planificación de la asignación de recursos de salud en futuros escenarios de emergencia.

DESCRIPTORES: COVID-19. Unidades de cuidados intensivos. Toma de decisiones. Camas. Admisión de pacientes.

INTRODUCTION

The Covid-19 pandemic began in 2020, and triggered a dramatic dilemma experienced by professionals in the world's health systems: the decision on who would occupy a bed in an Intensive Care Unit (ICU) during a health emergency context[1–2].

Previous viral epidemics, such as Severe Acute Respiratory Syndrome (SARS), have raised this concern[3], however the decision to admit patients to the ICU has re-emerged with unprecedented magnitude in the ongoing pandemic[2,4]. It was evidenced that 5% to 15% of patients with Covid-19 progressed to the severe condition of the disease, generating an extraordinary flow of demand for intensive care[5].

Despite global efforts to contain the advance of the pandemic, what was expected occurred: a growing demand for hospitalization and an exhaustion of ICU beds and mechanical ventilators in several countries[6–7]. In view of the health crisis scenario that was taking place, the need to ration equipment and interventions became imperative, causing the availability of ICU beds to be configured as a scarce resource in this new conjecture[2].

Decision making for admission to ICU beds is a challenging practice[8]. These are decisions which can save lives[9]. Guidelines prepared before the pandemic[10] were developed to assist in this process, and rethought with its emergence[4]. However, there is no consensus worldwide on the best alternative to face situations of admission request in cases of extraordinary increase in demand for ICU admission, as occurred during Covid-19[2,10–11].

In this scenario, the challenges regarding the process of establishing priorities for admission in times of scarce resources were potentiated and the repercussions fell on the professionals involved in this dynamic with the decision to admit or refuse requests for access to a bed[6,12], adding to the work overload, physical and emotional illness due to the imposed demand[2].

Despite the literature pointing out the need to better understand the decision-making process for ICU admission, it was observed that the majority of studies sought to present the most frequently considered criteria[3–4]. It was noted that the Covid-19 pandemic raised the need to expand investigations which explore the experiences, meanings, feelings and perceptions of professionals working in this process and which more deeply address the different intersubjective aspects involved and the repercussions of interactions for ICU admission, demonstrating the need for research aimed at understanding this phenomenon[13].

Reflecting on the effects of Covid-19 is undoubtedly relevant and necessary to shed light on the issues experienced by intensive care professionals and bed regulators at the most critical moment of the pandemic in Maranhão, Brazil. Similar to the world health emergency scenario, the state was faced with a staggered increase in the number of cases of the disease that demanded critical care, which resulted in the urgent need to expand the supply of intensive beds in different health Regions[14]. However, expanding access to high-complexity services is an economic and geographic challenge for the state, since it has an important cluster of rural areas with low population density, resulting in a concentration of the supply of resources in large centers and regional headquarters[15].

Thus, knowing the perspectives of professionals and their reflections on their experiences with decision-making for ICU admission in that period can contribute to planning measures which redirect and redefine flows and recommendations for better outcomes in high complexity in future pandemic scenarios, as well as in health contexts that threaten the ability to respond[2].

In this aspect, this study sought to contribute to the knowledge gap in the field of qualitative approach studies that seek to understand the experiences related to the decision-making process for allocating users into ICUs in a health crisis scenario and to answer the following research question:

what are the perspectives, practices and challenges related to decision-making for admission to ICU beds in face of the changes during the Covid-19 pandemic? Therefore, this investigation aimed to understand the perspectives, practices and challenges related to decision-making for admission to ICU beds during the Covid-19 pandemic in Maranhão State, Brazil.

METHOD

This is a qualitative, descriptive-exploratory study. Due to the complexity of the study objective, this design was chosen because it deeply investigates the relationships, processes and phenomena which cannot be reduced to the operationalization of variables, seeking a thorough reflection of the actions and meanings experienced and reconstructed in the pandemic context in the technical and social environment of the ICU[16]. Moreover, the criteria indicated by the Consolidated Criteria for Reporting Qualitative Research were adopted (COREQ) as a way of ensuring rigor and transparency in reporting this study.

The study was supported by the theoretical framework of responsibility for reasonableness[17]. This conceptual basis enables understanding the decision-making process and the establishment of priorities in the health area based on four ethical dimensions of the decision-making process: publicity - decisions and reasons must be publicly accessible; relevance - the reasons for the decisions are reasonable and appeal to principles accepted as relevant; review - there is a mechanism for contesting and resolving conflicting decisions; and regulation - there is voluntary or public regulation of the process to ensure that conditions are met. It is a proposal based on a fair process that establishes legitimacy for making critical decisions.

The study was conducted in the ICUs and the Internal Regulation Nucleus of Hospital Beds (*Núcleo Interno de Regulação de Leitos - NIR*) of two public hospitals in Maranhão, Brazil, which offered Covid-19 ICU beds in two different municipalities in relation to population size; one is medium-sized and the other is a large municipality. There is an ICU service and a *NIR* in each hospital.

The time frame refers to the so-called first wave of the Covid-19 pandemic, which took place from April to June 2020, in Maranhão. This period was identified as the most critical in the state, due to the exponential increase in the number of patients seeking hospitalization, the consequent need to expand the coverage of ward and ICU beds and the changes caused in the work environment and in other areas of life. social and private of professionals. Specifically, intensive care occupancy rates reached maximum capacity[14], leading the state to enact a lockdown as a more severe security measure, from May 5 to 15, 2020, throughout the Metropolitan Region. The interviews started in November 2020 and ended in January 2021.

The Internal Regulation Nucleus (*NIR*) is a technical-administrative unit which enables patient monitoring from arrival at the institution, during the hospitalization process and internal and external movement, until hospital discharge. Its purpose is to promote care equity and comprehensiveness, adjusting the offer to the admission demands. Thus, it has its own human resources, specific functions and work dynamics articulated with other hospital sectors. The working relationship between the *NIR* and the ICU is collaborative and integrated which seeks to organize the internal flow and align decisions between the leaders of the sectors involved with care through discussing cases and structuring administrative and care protocols, and thereby optimize hospital bed access[18].

It is understood that the ICU and *NIR* services suffered major impacts in facing the acute increase in severe cases of Covid-19 which required hospitalization. Due to the nature of the research problem and the objectives that guided this investigation, it became relevant to approach *NIR* and ICU professionals jointly, since their activities are linked to the dynamics of the decision-making process for patient admission to the ICU. In addition, both units are committed to allowing access in an organized manner and through principles that guide decision-making[18].

Furthermore, information which characterized the study sites is not provided, such as staffing, physical structure, services offered, number of clinical beds and ICU, location and geographic specificities in order to preserve the anonymity of the research participants.

The fieldwork began by presenting the study to hospital managers who in turn provided a list of 48 workers, nurses and doctors who performed care activities for patients hospitalized in the Covid-19 ICU and who participated in regulating hospital beds within the eligible sectors in this study. The professionals listed more actively participated in the first wave period of the Covid-19 pandemic in the aforementioned services (from the managers' perspective). Next, individual invitations were sent by email or telephone contact from this list inviting them to participate in the study, initially responding to a form with sociodemographic and service information.

The information obtained was organized into a matrix that served as a basis for choosing the professionals interviewed, who were selected through intentional sampling considering the diversity of professional profiles in relation to sociodemographic and work criteria, such as age, length of professional experience in the service, academic training and work shift. According to the research assumptions, the experiences could be influenced by these characteristics.

Nurses and doctors working in ICU and *NIR* during the first wave period of the Covid-19 pandemic in Maranhão were included. Professionals away from the work environment, during the first wave of the Covid-19 pandemic in Maranhão were not included. As a result, 32 professionals who met the eligibility criteria were approached during recruitment, with seven direct refusals and three more exclusions of professionals who agreed to participate, but who did not respond after three consecutive attempts to schedule an interview.

Theoretical data saturation was used as the criterion to close the sample, along with simultaneous data collection and analysis, allowing to identify relevant and recurrent elements. Thus, data collection was ended when the interviewees did not add new information to be considered in understanding the study objective, which occurred in interview number 20. However, two more interviews were carried out to validate the saturation point to legitimize the rigor and reliability of the technique used[19]. As a result, the final number of the sample was 22 participants.

Next, two instruments were developed: a structured questionnaire with data on identifying, training and performance of professionals and the semi-structured interview script started with the following question: considering the critical period of the Covid-19 pandemic, how did decision-making for admitting patients into the ICU happen? Thus, we continued with the questions contained in the script and with those that emerged from the researcher and interviewee's dialogue, which enabled learning the knowledge of practices, perceptions and the existing challenges or those which emerged with Covid-19 around allocating beds and decision-making for ICU admission.

Semi-structured interviews were then conducted, which took place in person (21) or by digital means (one), at places and times indicated by the interviewees. They were audio-recorded and later transcribed in full. The average duration was 40 minutes.

Content analysis in the thematic modality[20] was used as a technique for analyzing the collected data, systematically seeking the singularities of the experiences related to the decision-making process for admission to the ICU, as well as changes in the work dynamics with the arrival of the pandemic. The following methodological procedures were observed: pre-analysis (floating reading provided the opportunity to verify preliminary conceptions about admission decisions and prioritization, allocation and distribution of intensive beds in the context of scarce resources caused by the pandemic); exploring the material (when the categorization process of the analysis material was operationalized *a posteriori* during the analytical procedure and in continuous return to the corpus of analysis. The final

categories - named here as main categories - are linked to the objective of this study); processing the data obtained and interpreting the results found (the empirical categories (found) were interrelated to studies on the subject and discussed in the light of the theory of responsibility for reasonableness)[17].

NVIVO® 12 software was used to support the data organization, categorization and management. Thus, the transcribed interviews (the sources) were imported into the program in word file format, starting the systematic coding process through identifying the recording units (highlighted after a line-by-line analysis of the sources and grouped by themes) of the categories and subcategories, which were stored in structures of nodes and titled from the inferred meanings. The nodes were built manually and automatically, being defined during the process and modified according to the progress of the coding work; this made it possible to visualize the coded sources and the set of meanings observed in the analyzed material. Through the Codes section, the software program enabled organizing the nodes in a hierarchical structure (subnodes), which is important for the initial coding of the empirical elements. In addition, the Coding Lists function enabled continuously improving the data analysis and recognizing overlaps and duplications of themes that occurred in the categorization process.

The study was approved by the Research Ethics Committee of the University Hospital of the Federal University of Maranhão. The reports of ICU and *NIR* professionals in the hospitals of the investigated municipalities were analyzed together as they did not show significant differences. Their names were replaced by the initials N for nurse, and P for physician, followed by a number according to the participation order, and T1, T2 or T3 according to the coding of their length of experience in the service. All participants signed the Informed Consent Form.

RESULTS

Regarding the 22 research participants, 14 were male, single (11) and had brown skin (12), aged between 25 and 53 years. In addition, 14 were nurses and eight were doctors, with an average time since graduating of 9.5 years. Regarding their professional performance, seven were bed adjusters with a median time of three years of experience and six of them reported being a specialist in some area; 15 were professionals providing care in the Intensive Care Unit (of these, three were service managers) with a median time of six years of experience and 11 of them mentioned the title of specialist in intensive care. Among the assumptions of the study, only the experience time in the ICU showed differences in the speeches. In order to evidence this fact, this time was categorized as: recent=T1 (up to two years); intermediate=T2 (between two and five years); and senior=T3 (more than five years).

It is noteworthy that during the analytical procedure of the speeches, it was observed that the experiences of the professionals of the two hospitals were similar, so it was decided to categorize them jointly.

Thus, the analysis of the interviews allowed us to understand the experiences in the decision-making process for allocating ICU beds from the perspective of those who closely experienced the critical moment of the first wave. Thus, two central categories were identified based on the concrete situations reported by the professionals, namely: Context of the decision-making process in the ICU: the paradox of celestial discharges and Decision-making for ICU admission.

Context of the decision-making process in the icu: the paradox of celestial discharges

The demand of critically ill patients who required intensive support increased the pressure on the ICU and *NIR* professionals studied. It was an unknown disease, whose transmissibility, clinical course and treatment were not well understood.

The professionals' narratives revealed a scenario of imbalance caused by the growing demand for ICU admission and insufficient supply of beds. They highlighted that this mismatch was not caused by the pandemic, but intensified by it. Thus, the staggered demand for hospitalization motivated the worsening of the lack of beds, evidencing a situation of chronic insufficiency of this resource: [...] *this issue of lack of beds, we have always lived. Perhaps this has come to the fore more during the pandemic... this issue of us not receiving patients because they don't have a bed was already part of the life of the intensive care physician. This became more evident in the pandemic because, if before I had two patients that I could not receive, in the pandemic I had twenty patients that I could not receive, right? So the problem just got worse* (P4, T3).

Associated with these circumstances, there was the clinical severity of the patients and the increase in the number of deaths in the ICU during this period, which resulted in greater turnover of beds, often to the detriment of cleaning and disinfection procedures: [...] *enormous, all the time* (demand for ICU). *Not infrequently, we would discharge a patient, either a celestial discharge or to home, to the infirmary, and in a matter of a few hours it was filled* (the hospital bed) (P8, T1).

It is noted that the lethality of Covid-19 in this period paradoxically made it possible to face the high demand for hospitalization. The "celestial discharges" referred to the deaths that occurred, a kind of discharge which evoked the end of life. This phenomenon sometimes generated an ambivalence of meanings in the professionals, and also a source of conflict, by allowing a positive consequence for the possibility of attending to yet another serious case: [...] *I had a feeling that I considered very strange; sometimes we called: - is there any possibility of a bed? Then: - Look, doctor, there isn't, it's zero, but we have a patient here who is very serious and may die. Then you would call later to see if it had really happened or not. So, it was something that really hit me a lot. Because in the period before the pandemic: - Ah! the ICU is full, ok! But you didn't think about it, that there was a brief possibility of a death to be able to free up a bed and have someone else occupy it. That didn't cross my mind. It was something very shocking. Several of these shifts I left crying* (P7, T2).

In addition, it was inferred that the duality between life and death produced emotional suffering in the interviewees. For these agents in the midst of so many uncertainties, there was an agonizing conviction: the ICU bed was the most viable support to improve the survival of patients with severe disease at that time of the pandemic. The professionals generally felt frustrated by these losses of patients with unfavorable prognosis, but on the other hand, there was a feeling that the opportunity for treatment would arise from a "celestial discharge" for a patient who was waiting for a bed.

Decision-making for icu admission

Facing an unknown disease

The decision of who would occupy an ICU bed in the overwhelming context of work overload and emotional and physical consequences was influenced by the limited knowledge of a "new disease", whose known management defined the need to be in an ICU bed. In this scenario, the admission criteria were dynamic and changeable: *Our clinical criteria for admission were constantly changing and under discussion, and we were there interacting all the time... and we would send an article here, send an article there, it changed that. Unfortunately, what was always lacking, and this is bad, was the large number of patients* (P8, T1).

With the scenario of uncertainty and the high demand for hospitalization, the decisions for admission to the few available beds multiplied, generating situations in which it was necessary to decide which patients would have access to the available beds. Some of the professionals experienced

triage on a larger scale for the first time; an experience referred to as exhausting from a personal and professional point of view: [...] *After one bed appeared, 10 did not appear at once, then I had to do triage* (P2, T3).

Thus, given the high demand of critically ill patients, in addition to the need for triage, discharges and transfers of patients called "less severe" to specific wards or wards for this purpose and the admission of "more severe" patients began to be considered for the ICU bed: [...] *So, there came a time when we had to... I don't even say that we had to choose, but to stay in that thing of sometimes discharging a patient who still wasn't ready to be discharged, but to be able to give the vacancy to a more critical patient. We had to choose someone who was stable to send to the yellow, red ward, so that a patient that was more serious could come, needing to be intubated and such* [...] (N2, T2).

Criteria used for admission: a combination of factors

Given the unusual scenario attributed to the pandemic, respondents mentioned a need to use a combination of criteria for prioritization which emerged, involving factors relevant to the patient such as survival related to the severity of the clinical condition, and factors such as the availability of supplies for the necessary interventions, such as the mechanical ventilator: [...] *for an ICU patient who has PO_2 arterial saturation lower than 80%, they are already a patient who has to be in intensive care* [...] *we also saw the possibility of survival of these patients and the severity of each case* (P2, T3); [...] *Whether they would need a mechanical ventilator or not, we took into account the clinical picture, saturation, comorbidities* [...] (N9, T2).

It was observed that another criterion was added in practice in addition to the aforementioned criteria. The distance between the patient's residence or hospitalization place and the unit with an ICU bed available was another complicating situation experienced in the critical period of the pandemic: [...] *even the distance of the patient was also a factor that we analyzed, discussed with the team. So, not infrequently: - look, this patient here will take hours to arrive, there is not enough support for this patient who needs to be intubated and just by the description that they are putting here, he/she will arrive in a much more critical state than is described! So we saw it all* (P8, T1).

The challenges linked to the territorial dimensions of the state combined with the severity of the patient and the transport conditions required that decision-making and patient transfer be "fast"; a condition which would enable the effectiveness of interventions in a timely manner: […] *So, we started to realize that decision-making had to be faster. Because? Because it's a whole process, transport, time. Because, sometimes, you authorize it and then the patient took a long time to arrive. There was also a transport queue at that time* (P2, T3).

In addition, situations of extreme tension were reported when there was a request for hospitalization for young patients: [...] *There was once, I remember a very serious patient who was 25 years old that we said: - my God, we have to get a bed! And it was a whole process, we were running, trying to bring a ventilator from one corner to another* (corner)*, from a patient who was more stable, not needing a ventilator* (N9, T2).

Despite the intense mobilization employed in these situations, the interviewees warned that it was not enough to assess the age factor in isolation, but to consider the complexity of the case and other associated criteria such as the severity of the clinical condition and the survival chance.

They highlighted that the context of an unknown disease, family and institutional pressures were other tension-generating factors that interfered in the decision-making process for admission to the ICU: [...] "*ah, so-and-so has Covid-19", sometimes the patient did not. Then, the next day, they took the patient out because they didn't have it. In the regulation, they show that the patient is coming, that he's this or that, he's done, and then when the patient arrives, there's none of that* (N12, T3);

[...] *because they want the patient admitted to the ICU, why? Because the ICU has a professional inside for 24 hours, so they thought that the best care was inside the ICU, so they wanted them to stay there* (N7, T2). *The family was putting a lot of pressure on me, they thought the patient going there would solve it* (N8, T3).

These different experiences refer to the idea that ICU care was what was desired for people with Covid-19. Different strategies were adopted in order to obtain the vacancy aiming to reach the prioritization criteria, including registering diagnoses and clinical parameters which were not sustained after admission. In that context, the ICU was understood as the ideal place for the treatment and survival of Covid-19, demonstrating the social imaginary around the ICU.

DISCUSSION

The study on decision-making for ICU admission in a health crisis scenario from the perspective of the theoretical contribution of responsibility for reasonableness[17] suggests complex and contextual experiences to the situations experienced, involving dimensions beyond the principles which guide fair and equanimous decision-making.

It was found that the intersubjective and objective aspects of work dynamics, such as the availability of resources and hospital services, work overload and the conditions of users' access to health services, permeated and influenced the decision-making process. Through the professionals' statements, the scenario of scarce intensive care beds and mechanical ventilators, especially in the critical period of the Covid-19 pandemic, made working in the studied scenarios tense, corroborating that this theme is still little explored, and making the discussion about the process of distributing these resources very difficult.

In this regard, the scenario for ICU bed supply in the country[21] and in the world[10] was unfavorable before the Covid-19 pandemic. Even in developed countries, hospital support was threatened by the new health situation that was taking place. The number of patients who needed beds and mechanical ventilation was growing rapidly and proved to be greater than the supply of these resources[13].

However, this problem gained notoriety[15] and exceptional magnitude[13] with the advance of SARS-CoV-2 across the country. The gaps in ICU beds in some health regions showed that some Brazilians would not get access to this resource, especially in the North, Northeast and Midwest Regions[15].

The search for scientific evidence on the most appropriate conduct in that context and sharing information among professionals made them continuously connected to the world of intensive care under a climate of interprofessional cooperation, but also of stress generated by the bombardment of constant information[22]. On the other hand, the knowledge that was structured was at times conflicting, and its updates paradoxically produced certain insecurity related to decision-making when facing tension caused by high demand[13,22].

Experiences like these can arise when confronted by unusual and unplanned scenarios such as a pandemic. At this point, the acute stress triggered by being at the front of an unknown disease with high demand, frequent situations of urgency and human suffering, can have a negative impact on interpersonal communicating[23] and on the decision-making process[12].

Triage is considered a form of resource rationing which seeks to classify patients according to clinical needs, and was very necessary in that context. This measure aims to offer greater benefits to the largest possible number of people by using resources in the most effective way[24]. This terminology is common in the guidelines of different countries. Terms such as prioritization, allocation and rationing are sometimes similar expressions attributed to triage, however they present variations in terms of use[4]. In any case, triage was performed upon admission to the ICU in the period before the pandemic to limit unnecessary hospitalizations. However, decisions in a context of high demand and reduced supply of resources are more complex and often cause emotional discomfort in professionals[1,13].

According to Aredes and Modesto[25],:447 when facing difficult circumstances like this, trying to protect yourself from the suffering of the other "does not cancel your sensitivity to other people's problems in facing several sensitive facts inherent to the profession, but in a way it forces their "I" to resist in the face of events".

The situation reported by Rosenbaum[13] is an example of the emotional suffering experienced by Italian professionals with the process of prioritizing patient admission to available ICU beds during this period of the pandemic, which was also manifested in the speeches of the professionals interviewed in Maranhão. This fact reinforces the need to investigate the repercussions of this decision-making process for professionals.

It is also important to emphasize the role of nursing in clinical triage practices, risk classification and management of health services, historically attributed to this professional category. The regulatory nurse occupied a particularly prominent position in the context of Covid-19, being the link between the regulatory system and the patient and articulating access to intensive care beds from the decision of authorization for admission when there was a vacant bed[26].

In this direction, the professionals' narratives allowed us to infer that the experience time in the service to some extent influenced coping with the difficulties and uncertainties presented in that context. The admission criteria, care and administrative protocols were dynamic and modified, as knowledge about the serious and, until then, unknown disease was structured. In addition, the interviewees, in line with the literature[1,7,13,21] were immersed in an unusual scenario of work overload, scarcity of human and material resources, fear of infection, exposure to pain and deaths on a larger scale, which required physical and emotional resistance to survive those days.

The difficult triage situations for admission in these circumstances were accompanied by extreme tension, and at times emotional distress, as reported in the literature[1–2,13] and mentioned in this study. However, the perception of insecurity, fear and stress were more intensely reported by those without qualification or with less experience in caring for critically ill patients, which is correlated with the results indicated by Bergman et al[27]. Previous work experience in the ICU, a sector characterized by the presence of critically ill and clinically unstable patients, made professionals (in a way) more prepared to face the pandemic in this scenario of excess demand. Thus, the experience in intensive care behaved as a factor to reduce suffering in this study.

Reverse triage, a measure identified in the interviewees' speeches, is considered an important approach in a crisis scenario, which seeks to identify patients who meet the necessary requirements for which early discharge is safe and ethical[28], thus increasing the ICU's capacity to hospitalize the most critical patients[1]. A study[28] showed that this use resulted in a reduction in years of life lost and mortality in this service. Respondents mentioned that this decision was made on a case-by-case basis after discussion with the health team and preceded by multidisciplinary therapeutic planning, followed by constant clinical monitoring of transferred patients[29]. The Brazilian Association of Intensive Medicine (*Associação de Medicina Intensiva Brasileira - AMIB*)[6] recognized its importance and recommended its use by institutions in the country, considering this practice in the protocol for allocating depleted resources.

Thus, the pandemic potentiated an existing dilemma in intensive care: prioritizing the allocation of resources when confronted with insufficient hospital beds[13]. However, there is no consensus worldwide on the best way to face complex situations like this, and health services can react in different ways[1].

Issues about resource allocation and prioritization are part of health practice at different organizational levels, however it has become more acute with the pandemic scenario caused by Covid-19[1,7,13]. Especially at the beginning, the discussion around the decision-making process for

admission to the ICU raised the question of whether the decisions made were adequate or not; nevertheless, this is a question for which there is no consensus answer, and which goes beyond the scope of this study. We sought to understand this process and not identify whether the practices were appropriate or not. However, important strategies for setting up a process of defining priorities was identified through the theoretical contribution of responsibility for reasonableness, which can be considered in the context of intensive care.

Although the use of this contribution by the professionals in this study was not directly pointed out, through the data collected it was understood that the practices denoted an expressive use of the principles of relevance and publicity based on scientific evidence available at that time when deciding on triage criteria in a situation of rationing of beds. The use of a computational system for regulating beds used in all hospitals in the health network points to the social legitimacy described in this theory. Specifically, a decision will be relevant if it appeals to reasons and principles that are accepted as relevant by people willing to find mutually justifiable terms of cooperation[17].

From this perspective, it is worth revisiting the interviewees' perception of these decisions which above all became difficult in a health emergency scenario caused by an acute disease, which abruptly led to the collapse of the health system, a depletion of resources and very difficult decisions.

Thus, due to the threatening situation of exhaustion of intensive beds and mechanical ventilators, the *AMIB* proposed a triage protocol based on ethical and technical-legal aspects in May 2020, recommending those of "severity" and "chance of survival"[6] in the structure, in addition to other criteria. Several guidelines pointed in the same direction, stating that prioritization in a scenario of scarcity should consider patients with greater recovery and hospital discharge probability, meaning those who present better chances of benefiting from treatment in the ICU[4,30].

Despite the lack of consensus on the ideal criteria in the context of a pandemic, the literature indicates that they should be evaluated together in the decision-making process[4]. In this sense, the Federal Council of Medicine (*Conselho Federal de Medicina - CFM*) established in 2016 that ICU admissions must consider factors such as: diagnosis, severity and patient need, medical services available at the institution, prioritization according to the patient's condition, availability of beds, potential patient benefit from therapeutic interventions and prognosis[31].

When considering the aforementioned resolution from the perspective of the theory of responsibility for reasonableness, the four conditions expressed for a formal and fair allocation process of scarce resources in health were generally observed. However, it is worth discussing the operationalization of these recommendations in above all ensuring the wide dissemination of the ICU triage and admission protocols considering: emergency contexts; a systematic process for reviewing admission decisions; and the structuring of a regulatory process that legitimizes the applicability of the four mentioned conditions[32].

However, Marmelstein and Morozowski[33:113] warn that "nothing prevents each local health system from establishing priority criteria according to the availability of existing beds, following the maxim that the greater the scarcity situation, the stricter the admission criteria must be", and indicate the relevance of objective, ethical and transparent criteria that seek to achieve the well-being of the population.

Considering the contextual factors of each location which made it difficult to obtain an ICU bed (such as territorial distance) is relevant and necessary in view of the territorial extension in Brazil. This distance is uneven, especially in the North, Northeast and Midwest regions. In a pandemic scenario, access difficulties in remote areas can represent obstacles to obtaining this care[15].

A study observed the long distances traveled by patients who were victims of Covid-19 to obtain a hospital bed and highlighted the importance of understanding the flows of hospitalizations, since many Brazilian municipalities have deficient specialized support for the most complex cases of the disease[34].

Thus, the experience of the State Department of Health of Maranhão in expanding access to specialized care through aerial ICUs, which enabled transferring patients to beds in hospitals of the state network is mentioned. This logistics change sought to reduce the harmful repercussions of territorial inequality in the state, reaching municipalities far from the reference hospital unit and mediating the service offer in places where demand was lower, reducing pressure in other regions.

The prioritization criteria for ICU admission were constantly being updated, configuring what Tyrrel et al[4]. consider a "living document". For example, the age criterion raised discussion and sparked disagreements around the world in this period[1,7,9]. The first version of the *AMIB* protocol for allocating beds in the context of exhaustion in Brazil initially recommended its use in conjunction with other triage criteria[6], as well as in other countries[13]. However, after discussion with experts, the age criterion was removed in the next version and replaced by a measure of functionality[6]. Vincent et al[1].:250 indicate the importance of a careful assessment of this factor when associated with other aspects involved in the patient and exemplify this by stating: "an independent and active older adult patient, without previous medical conditions, may take precedence over a younger individual with advanced cancer, severe heart failure or alcoholic cirrhosis; and life expectancy is perhaps more important than age".

Another issue worth mentioning is the quality of information and communication in the regulatory process. According to Griffiths et al.[8], obtaining as much information about the referred patient was essential for adequate decision-making for bed allocation. It was observed in this study that the quality of this communication often guided decisions about prioritizing patients, hindering or facilitating regulatory work. Inadequate, incomplete or inconsistent information delayed or led to errors in this process. There were external pressures added to this (from acquaintances, family members and institutions) and the social representation around the ICU (as the desired place for the treatment of patients with Covid-19 at that time) which raised tension and interfered with the decision-making process for admission.

In addition, the Covid-19 pandemic revealed the importance and need for the regulatory process in the health sector in Brazil, mainly due to its commitment to allowing access to beds in an organized manner and according to severity criteria. The fact is that if there were no regulation, a considerable portion of Brazilians who needed the public health system (*SUS*) would be without access to health services, such as ICU beds[35].

Therefore, it is noted that the decision-making process and establishment of priority for ICU admission do not only involve normative aspects related to healthcare, especially in a context of scarcity of resources[8]. The theoretical basis discussed in this study points to strategies structured on theoretical-ethical foundations which have been used to assess the establishment of priorities in different healthcare systems, establishing that the definition of priorities seeks to achieve justice[17], which is a very challenging objective in substantial pandemic circumstances, such as what occurred during Covid-19. In this context, decisions can become conflictive if the public thinks they are imposed by interested parties with narrow economic goals. However, if the public over time recognizes it as an educational and deliberative process provided by accountability for reasonability, in which key institutions make responsible and reasonable decisions, then the public will internalize conceptions of an equitable process that will moderate demand.

Thus, these conceptual contributions in intensive care settings can indicate opportunities for improvement in defining priorities and point out goals to be achieved in the quality and coherence of the triage and rationing the decision-making process. Thus, it is emphasized that the results of this study may differ from other realities by demonstrating a particular context which prevents generalizing the results found.

CONCLUSIONS

From the perspective of the theoretical framework of responsibility for reasonableness, it was evidenced that the decision-making process for ICU admission was marked by multifaceted experiences related to the perspectives, practices and challenges faced in that exceptional scenario. In this logic, it was identified that decision-making was perceived as a complex phenomenon, arduous and interconnected to factors extrinsic to the technical-care scope, and involving dimensions that overcome the precepts which guide reasonable and justifiable decision-making, such as the serious context of an unknown disease. The growing demand and worsening of bed shortages in this context resulted in work overload and physical-emotional effects, in addition to the need for triage and rationing on a larger scale.

It was noted that the adopted decisions were anchored by nationally-established institutional regulations; however, contextual interventions were necessary for the experienced realities, such as the criterion of territorial distance to obtain the ICU bed. The four precepts of the theoretical basis discussed were observed, with the relevance and publicity conditions being the most used in view of the overwhelming experiences analyzed. Therefore, the present study has the potential to provide visibility to the identified challenges and to raise reflections on the locoregional effects of a phenomenon with global proportions, and in turn to develop greater skills to deal with future pandemic scenarios.

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NOTES

ORIGIN OF THE ARTICLE

Article extracted from the thesis - "*Vivências de profissionais em Unidade de Terapia Intensiva e Núcleo Interno de Regulação de Leitos na pandemia da Covid-19*", presented to the Postgraduate Program in Public Health of the *Universidade Federal do Maranhão*, in 2022.

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APPROVAL OF ETHICS COMMITTEE IN RESEARCH

Approved by the Ethics Committee in Research of the *Universidade Federal do Maranhão*, opinion no. 4.234296/2020, Presentation Certificate for Ethical Assessment 35645120.9.0000.5086.

CONFLICT OF INTEREST

There is no conflict of interest.

EDITORS

Associated Editors: Laura Cavalcanti de Farias Brehmer, Monica Motta Lino.
Editor-in-chief: Elisiane Lorenzini.

HISTORICAL

Received: July 25, 2022.
Approved: October 25, 2022.

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