

Therapeutic procedures performed in intensive care unit patients: an epidemiological description*Procedimientos terapéuticos realizados en pacientes de unidades de cuidados intensivos: descripción epidemiológica**Procedimentos terapêuticos realizados em pacientes de unidade de terapia intensiva: uma descrição epidemiológica***Bruna Aparecida de Azevedo Silva¹**

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Abstract

The aim of this study was to characterize the therapeutic procedures performed on critically ill patients assisted in a Serious Patient Unit in the coastal lowlands of Rio de Janeiro. This is a documentary, retrospective research with a quantitative approach. There was a predominance of elderly (48.8%), male (55%). Having the neurological system as the main altered (34.5%), due to hemorrhagic (34.7%) and ischemic (25%) stroke. Most of the sample underwent therapeutic procedures (64.3%), with mechanical ventilation being the most performed (86.1%), with the evolutionary outcome of death (47%), as the main cause of cardiogenic shock (24%). The characteristics found become essential for clinical practice in the face of critically ill patients, since it can support relevant data that make it possible to help improve the quality of care.

Descriptors: Intensive Care Units; Therapy; Health Profile; Nursing.

Resumen

El objetivo de este estudio fue caracterizar los procedimientos terapéuticos realizados en pacientes críticos atendidos en una Unidad de Pacientes Graves en las tierras bajas costeras de Rio de Janeiro. Se trata de una investigación documental, retrospectiva con enfoque cuantitativo. Hubo predominio de ancianos (48,8%), varones (55%). Tener el sistema neurológico como el principal alterado (34,5%), por ictus hemorrágico (34,7%) e isquémico (25%). La mayor parte de la muestra fue sometida a procedimientos terapéuticos (64,3%), siendo la ventilación mecánica la más realizada (86,1%), siendo el desenlace evolutivo la muerte (47%), como principal causa de shock cardiogénico (24%). Las características encontradas se tornan imprescindibles para la práctica clínica ante el paciente crítico, ya que pueden sustentar datos relevantes que permitan contribuir a mejorar la calidad de la atención.

Descriptores: Unidades de Cuidados Intensivos; Terapia; Perfil de Salud; Enfermería.

Resumo

O objetivo deste estudo foi caracterizar os procedimentos terapêuticos realizados em pacientes graves assistidos em uma Unidade de Paciente Grave da baixada litorânea do Rio de Janeiro. Trata-se de uma pesquisa documental, retrospectiva de abordagem quantitativa. Houve uma predominância de idoso (48,8%), masculino (55%). Tendo o sistema neurológico como principal alterado (34,5%), por AVE hemorrágico (34,7%) e isquêmico (25%). A maior parte da amostra realizou procedimentos terapêuticos (64,3%), sendo a ventilação mecânica a mais realizada (86,1%), tendo como desfecho evolutivo o óbito (47%), como principal causa o choque cardiogênico (24%). As características encontradas tornam-se fundamental para prática clínica frente aos pacientes graves, visto que pode subsidiar dados relevante que possibilitam auxiliar a melhoria na qualidade assistencial.

Descritores: Unidades de Terapia Intensiva; Terapêutica; Perfil de Saúde; Enfermagem.



Introduction

Intensive care units (ICU) have as their main characteristic the care for critical patients, who need continuous monitoring and equipment with the support of advanced technology and a specialized multidisciplinary team, being a hospital sector of complex care that tends to treat in qualified ways potentially serious patients, or at imminent risk of death.¹ Thus, the care provided in the ICU requires the team to quickly and accurately identify the health conditions of each individual, due to the severity and instability of the patients and the complexity of care required.²

With the evolution of technology in intensive care units (ICU) the demand for qualified professionals has increased. As it is a sector that serves critical patients who need many hours of assistance, these assistance activities require high technical and scientific competence. In view of this, it is essential to design adequate personnel to develop assistance with quality and patient safety. The team must have scientific knowledge and technical training to provide effective care.³

Serious patients admitted to intensive care units are constantly submitted to invasive and non-invasive procedures with intuited diagnosis or treatment. Among them, Mechanical Ventilation (MV) can be highlighted, which is called one of the most important life supports and one of the most used resources for maintaining the breathing pattern of patients in whom the body is unable to maintain the respiratory cycle, either whatever the motivation of such disability.⁴ Another very common procedure is hemodialysis since the incidence of acute kidney injury (ARI) that requires artificial renal support (ARS) in the modality of hemodialysis (HD) in critically ill patients admitted to intensive care units (ICU) has been increasing with the over the years.⁵ Other procedures commonly used in the care of critically ill patients are invasive and non-invasive monitoring, surgical procedures to perform ostomies, laparotomies, installation of drains and catheters, among others.

In this scenario, it is of utmost importance that health professionals are integrated about the therapeutic interventions of each unit aimed at beneficence and non-maleficence in the care provided to this population, as well as updated on the measures that intervene in the

effectiveness of treatment together with quality. of life of patients, together with the strengthening of science.

In view of exports, the following research question was raised: What are the therapeutic procedures performed on adult patients assisted in the critically ill unit? The proposed objective was to characterize the therapeutic procedures performed in critically ill patients assisted in a Serious Patient Unit in the coastal lowlands of Rio de Janeiro.

Methodology

This is a documentary, retrospective study of a quantitative approach to patient data assisted at a Serious Patient Unit (UPG) in the coastal lowlands of the State of Rio de Janeiro. Being approved by the ethics and research committee of the University Veiga de Almeida UVA-RJ, having as a consubstantiated opinion 2,818,191.

The medical records of patients older than 18 years, whose date of admission to the unit was from January to December 2017, were included in the research, and those who remained less than 24 hours in the unit due to deaths or other causes and patients with unknown identification were excluded.

The collected data followed the period of August and September 2018. With 233 records found, after excluding 11 records from patients under 18 years old and 54 from patients who remained in the unit for less than 24 hours, 168 records were selected. The data collected were socioclinical demographic data such as age, age group and reason for hospitalization. And procedure profile data used by patients such as surgical and clinical procedures, use of invasive and non-invasive monitoring, use of medication for continuous use and patient outcomes. Microsoft Excel® 2010 software was used for quantitative analysis for tabulation and descriptive analysis of the data present in the research.

Results and Discussion

The clinical and sociodemographic profile of the patients analyzed was a population of a dominant age group that was older than 60 years (48.8%), a predominance of males (55%). As for the main pathologies, most of them with changes in the neurological system (34.5%), followed by cardiovascular (20.3%); respiratory (16.7%); gastrointestinal (15.5%) and renal (6.5%), as shown in Table 1.

Table 1. Distribution of sociodemographic and clinical characteristics of patients admitted to the Serious Patients Unit. Cabo Frio, RJ, Brazil, 2018

SOCIODEMOGRAPHIC CHARACTERISTICS	N	%
Age		
18 + 32 years	24	14,3
32 + 46 years	27	16,1
46 + 60 years	35	20,8
≥ 60 years	82	48,8
Gender		
Male	93	55
Female	75	45



MAIN PATHOLOGIES BY SYSTEMS	N	%
Neurological	58	34,5
Hemorrhagic Stroke	23	34,7
Ischemic Stroke	15	25,8
Cardiovascular	34	20,3
Acute myocardial infarction	13	38,3
Acute Pulmonary Edema	10	29,4
Respiratory	28	16,7
Pulmonary sepsis	10	35,6
Pneumonia	9	32,3
Gastrointestinal	26	15,5
Bowel obstruction	5	19,2
Firearm piercing in the abdomen	3	11,4
Renal	11	6,5
Acute Renal Failure	5	45,4
Urinary Sepsis	4	36,4

Regarding what was found about the elderly and male predominance, it can possibly be justified by the physiological changes that may be associated with chronic comorbidities, increasing the need for care at different levels of health for the elderly population, and by the low adherence of the male population to prevent diseases. and because they are more exposed to risks, including external causes and traffic accidents.⁶

It is worth mentioning that even in a lesser expression in the number of female patients, this population is identified with a strong relationship to hospitalization, given the social changes. A study published in January 2020 in Maringá, showed a significant expression of hypertensive women who were accompanied by vascular surgery, which shows that it is of great importance that the associated factors, such as comorbidities, are known to improve the provision of care.⁷

Regarding the high prevalence of neurological diseases, specifically hemorrhagic and ischemic stroke, is in line with the current evidence. A study carried out in the same region of the present study pointed out a significant number of critically ill patients with arterial hypertension and Diabetes Mellitus, these being the main risk factors for cerebrovascular diseases.⁶

As these are patients who demand a high level of complexity, many therapeutic procedures are performed within the unit, where the most common are: invasive mechanical ventilation 93 (86.1%), blood transfusion 37 (34.2%) and hemodialysis 17 (15.7%). Due to the high incidence of hospital admissions from the city's emergency rooms and, consequently, to the high degree of complexity of these patients, about 58 (34.5%) of the patients admitted to the unit underwent surgical procedures. All these data can be analyzed as shown in the Table 2.

Table 2. Distribution of most incident clinical and surgical procedures in the Serious Patients Unit. Cabo Frio, RJ, Brazil, 2018

THERAPEUTIC PROCEDURES	N	%
Did not perform therapeutic procedures	60	35,7
Performed therapeutic procedures	108	64,3
THERAPEUTIC PROCEDURES CARRIED OUT AT THE UNIT	N	%
Invasive mechanical ventilation	93	86,1
Blood transfusion	37	34,2
Hemodialysis	17	15,7
SURGICAL PROCEDURES ADMITTED AT THE UNIT	N	%
Did not perform surgical procedures	110	65,5
Performed surgical procedures	58	34,5
MAIN SURGICAL PROCEDURES ALLOWED IN THE UNIT	N	%
Exploratory laparotomy	25	43,1



Hematoma drainage (subdural / intradural / extradural)	7	12
Tracheostomy	6	10,4
Amputation	4	6,9
Debridement	4	6,9
Others	12	20,7

In the case of therapeutic procedures performed within intensive care units, invasive mechanical ventilation is one of the most used therapeutic pillars, requiring a greater demand for knowledge about its use, thus avoiding complications to the proposed treatment for each patient.⁸ Previous studies relate the performance of hemodialysis within these units, due to acute kidney injury, one of the most common complications, due to the severity and instability of each patient.⁹

Invasive mechanical ventilation is a great and important respiratory support for critically ill patients, as already discussed in this work, however there is also a great deal of attention today regarding the prevention of Pneumonia Associated with Mechanical Ventilation (VAP), which takes about 24 to 76% of incidences in intensive care units throughout Brazil.¹⁰ Basic measures can be established to reduce the rates of this type of infection, such as: maintaining the headboard elevation at 30-45°, maintaining the cuff pressure of 25-30 cmH₂O or 18-22mmHg, aspiration of the upper, lower and subglottic airways routinely adjust the level of sedation and the spontaneous breathing test daily, perform oral hygiene with antiseptics, among others.¹¹ An article published in 2020, stressed the importance of constantly checking and adjusting cuff pressure in intensive care units, mainly by the nursing team in the various care provided to the patient, thus becoming a useful and effective measure in preventing tracheal injuries and bronchoaspiration and consequent damage prevention.¹²

Studies corroborate with the present research that, the transfusion therapy constitutes an important, complex and essential role for several pathologies and above all in critical patients, that is, within the intensive care units, being an adjunct factor to the most diverse types of treatments proposed in these units.¹³

For a more effective assistance to be provided to critical patients, it is necessary to constantly use hemodynamic monitoring, whose purpose is to recognize and evaluate the complications of each patient's hemodynamic status, adequately preventing major complications and improving treatment prognosis. proposed. Therefore, the literature proposes the following parameters as basic hemodynamic monitoring: heart rate, continuous electrocardiogram, non-invasive blood pressure, arterial oxygen saturation, respiratory rate, body temperature and diuresis.¹⁴

Regarding hemodynamic monitoring, the present study showed that 100% (168) of the sample underwent non-invasive monitoring, namely: continuous cardiac monitoring, pulse oximetry and non-invasive blood pressure. And regarding the use of continuous infusion drugs, 103 (61.3%) of the patients analyzed underwent some type of continuous infusion drug, with sedatives being the most frequent (81.5%), followed by vasoactive amines (63, 6%) as shown in the Table 3.

Table 3. Distribution of the use of hemodynamic monitoring and continuous infusion drugs in the Serious Patients Unit. Cabo Frio, RJ, Brazil, 2018

HEMODYNAMIC MONITORING	N	%
Patients with invasive monitoring	0	0
Patients with non-invasive monitoring	168	100
CONTINUOUS INFUSION DRUGS	N	%
Patients without continuous infusion drugs	65	38,7
Patients with continuous infusion drugs	103	61,3
Main continuous infusion drugs used in the unit	N	%
Sedation	84	81,5
Vasoactive	65	63,1
Nitrates	15	14,7
Antiarrhythmics	12	11,6

Regarding the use of invasive hemodynamic monitoring, even though they were not used in this research due to the unavailability of the unit where the data were collected, studies indicate that the methods most used in intensive care units are: Mean Arterial Pressure (MAP), Central Venous Pressure (PVC) and Intracranial Pressure

(ICP), as it is essential for critical patients to be reliable and accurate because they are critical patients.¹⁵

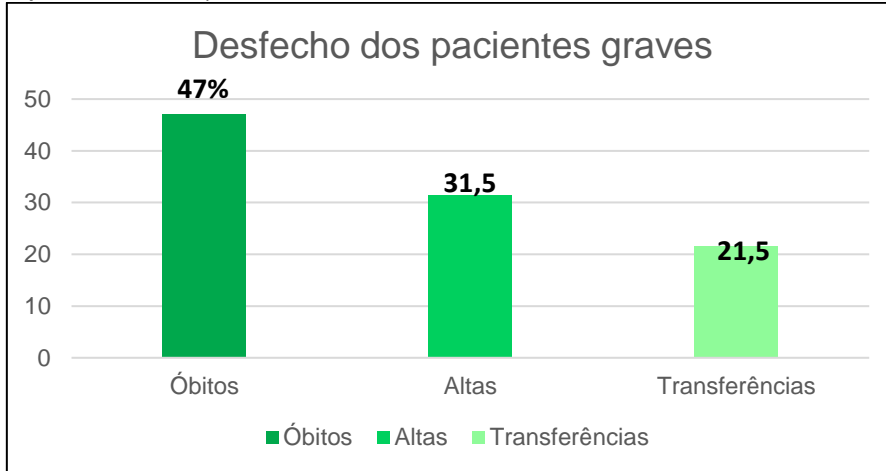
The main continuous infusion drug used in the unit was sedation. Its use can bring benefits to patients hospitalized in intensive care, which due to the environment and situation may be agitated, however, they must be used with caution and there is always an assessment of the



possibility of withdrawing or decreasing the dose, as also according to the study, the prolonged use can increase the time of mechanical ventilation and hospitalization.¹⁶

Regarding the evolution of hospitalization, the data showed that 79 (47%) of the patients died, followed by 53 discharges (31.5%) and 36 transfers (21.5%), as identified in Graphs 1 and 2.

Graph 1. Outcome of patients admitted to the Serious Patients Unit. Cabo Frio, RJ, Brazil, 2018



A study by the Regional Hospital of João Pessoa, corroborate with the present research, showing that the outcomes of hospitalizations in intensive care units are characterized by a higher incidence of death, followed by discharge and transfers. This occurs due to the high degree of complexity and severity of patients admitted to these units.¹⁷

An important factor to be highlighted is the great impact that has a strategic planning with specific goals for the management of critical patients, seeking to work with a better quality of bed management, so that there is a decrease in the death rates and infection risks.¹⁷

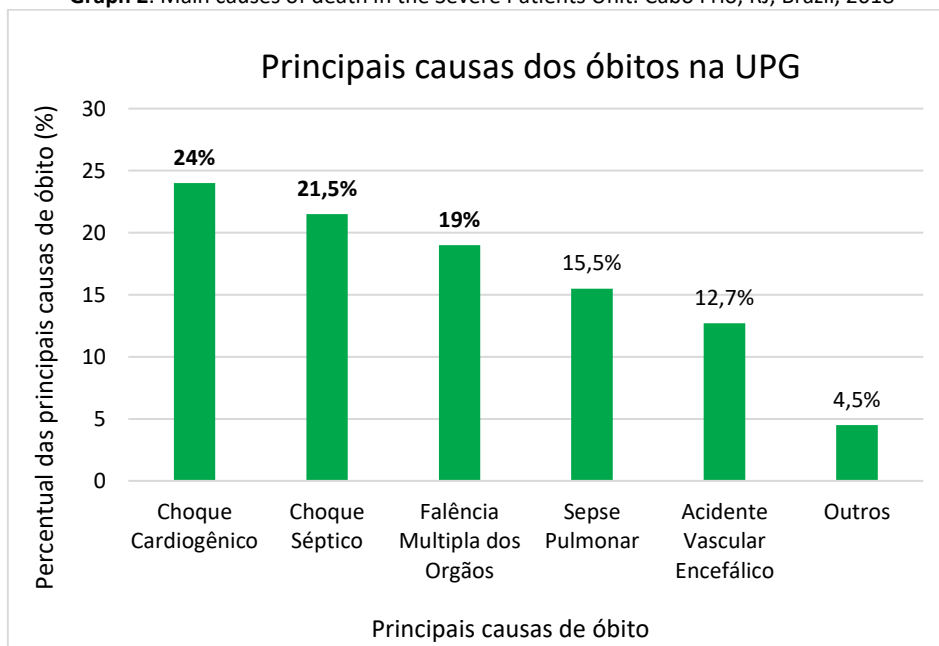
It is worth mentioning that a situation that can also impact the high mortality rate of patients is the clinical condition that they are admitted to. These patients often

have a poor prognosis. Given this, it is important that the units that aid critically ill patients, can identify, and record the severity of the admitted patient, as this fact has an impact on cost and person management.¹⁸

There is a considerable increase in hospitalization and death rates in young and elderly people, due to causes related to the cardiovascular system, neoplasms, and respiratory diseases. In Brazil, the causes of death are monitored by the Mortality Information System (SIM).¹⁹

Among the causes of death in the unit of critically ill patients studied, there was a higher incidence in cases of cardiogenic shock 19 (24%), followed by septic shock 17 (21.5%) and multiple organ failure 15 (19%), as shown in Graph 2.

Graph 2. Main causes of death in the Severe Patients Unit. Cabo Frio, RJ, Brazil, 2018



About to the main causes of death in intensive care units, studies corroborate the research showing cardiovascular causes as the most incident, followed by causes due to septic shock, generally related to age, weak immune system and prolonged time of hospitalization of these patients in intensive care units.²⁰

According to data presented by DATASUS, in 2016, the main causes of death in Brazil are described in the following order: diseases of the circulatory system (362,091 thousand cases), neoplasms (215,217 thousand cases), diseases of the respiratory system (158,041 thousand cases) and external causes of morbidity and mortality (155,861 thousand cases).²¹

Final Considerations

The clinical and sociodemographic characteristics of patients admitted to the Serious Patients Unit of a public

hospital of municipal admiration in the Baixada Litorânea of the State of Rio de Janeiro, was a predominance of the elderly population, male. A greater number of pathologies were related to the neurological system, with the outcome of hospitalizations a high number of deaths, the main causes for which are cardiogenic shock, septic shock, and multiple organ failure. The procedures most used in patients were non-invasive monitoring and the most representative continuous infusion drugs were sedations and vasoactive amines. The region's profile must be considered so that care practices are known, targeted and effective, thus generating better results. The characteristics found become essential for clinical practice in the face of critically ill patients, since it can subsidize relevant data that make it possible to assist in management aiming at improving the quality of care, as well as the execution of more research related to the theme is essential.

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