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Analysis of the profile of neurological emergencies and physiotherapeutic performance in the emergency room

Karina Silva Ribeiro[1], Felipe Pinheiro Guimarães[2], Mariane de Freitas Arcain[3], Maria Eduarda Bitencourt da Silva[4], Natalia Ferreira Zamberlan[5].

ABSTRACT

Neurological emergencies are among the main occurrences in an emergency room, highlighting the particularity of demonstrating the need for a longer period of stay in the emergency service, hospitalization rate, admissions to critical patient units, in this way Physiotherapy work together with the multidisciplinary team is essential in the care of these patients. The objective of the present study was to analyze the profile of neurological emergencies and physiotherapeutic performance, in order to discuss effective conduct in physiotherapeutic care in response to this demand in the emergency room sector. This is an observational study, lasting twelve months, where we analyzed age, sex, neurological diagnostic hypothesis and the physiotherapeutic treatment that was carried out. 1619 patients were treated in the emergency unit during this period, of which 192 patients presented a neurological emergency profile, representing a percentage of 11.85% in relation to the total. Regarding the pathologies found in adult patients, 4 were more prevalent, being: Ischemic Stroke (50%), Hemorrhagic Stroke (17.7%), Seizures (13%) and Traumatic Brain Injury (13%). The physiotherapeutic approaches observed in the study demonstrated a greater focus on behaviors related to the respiratory system, and a lower prevalence of action focused on the motor system and early mobilization, which is justified by the fact that priority occurs in situations of complications that promote risks of life and are commonly prevalent in this sector, directly interfering in behaviors aimed at early mobilization.

Keywords: Neurology, Emergency relief, Physical therapy department, Hospital.

INTRODUCTION

Neurological emergencies trigger considerable morbidity and mortality, and a multidisciplinary approach to these patients is essential. These disorders are characterized in both non-infectious and infectious etiologies (Ogbebor et al., 2023). Some signs and symptoms arise in the presence of a neurological deficit or abnormality, such as a speech or language disorder, a visual disturbance or paralysis, highlights a warning sign for a focal injury or dysfunction of the nervous system. In most cases,

[1] ORCID: https://orcid.org/0000-0001-9126-7146
University of West Paulista, Brazil
[2] ORCID: https://orcid.org/0009-0007-1514-1999
University of West Paulista, Brazil
[3] ORCID: https://orcid.org/0000-0001-8326-1262
University of West Paulista, Brazil
[4] ORCID: https://orcid.org/0009-0000-6141-6585
University of West Paulista, Brazil
[5] ORCID: https://orcid.org/0000-0003-4148-9095
University of West Paulista, Brazil

it is a threatening condition, which requires immediate intervention because it indicates a worsening of the brain, spinal cord, or peripheral nervous system, requiring immediate treatment (Chapman et al., 2023).

The predominant emergencies in the emergency department can be divided into traumatic or non-traumatic neurological emergencies. Non-traumatic neurological emergencies are: iStroke (80% of cases), intracerebral hemorrhage (20% of cases), epileptic seizure / status epilepticus, non-traumatic spinal process, Guillain-Barré syndrome (Chapman et al., 2023). The main traumatic neurological emergencies are: traumatic brain injury (TBI) and spinal cord trauma (Venkatasubramanian et al., 2019; Taylor et al., 2022). Cerebrovascular accident (CVA) represented the diagnosis with the highest prevalence at hospital admission and the highest rate of death in the first 72 hours after the emergency department evaluation, regardless of the patient's age (Tribelhorn et al., 2021).

Severe cerebrovascular diseases, traumatic injuries to the brain and spinal cord, and other toxic, dysmetabolic, infectious, inflammatory, or degenerative diseases involving the central nervous system (CNS) can result in respiratory failure, oxygenation deficit (hypoxia) and/or carbon dioxide retention (hypercapnia), complications from pulmonary failure leading to a sequence of health problems such as pneumonia, pulmonary edema and traumatic pneumothorax (Racca et al., 2020). Acute respiratory failure is often reported in patients with acute or chronic neuromuscular diseases (NMDs), such as Guillain-Barré syndrome, among others (Racca et al., 2020).

The damage caused by neurological injuries affects not only the peripheral muscles, but also the respiratory muscles, causing respiratory muscle weakness, changes in the breathing pattern, and reduction in respiratory volumes and flows, making it essential for the physiotherapist to support the ventilatory support of these patients (Pozuelo-Carrascosa et al., 2020). Another aspect of great relevance is the early mobilization of these patients, which aims to act in a preventive manner in the physical and cognitive rehabilitation of the individual, with interventions that help in the recovery of the cardiopulmonary system, in the prevention of muscle deterioration and joint contractures and stimulate the reestablishment of the patient's autonomy. These interventions should occur early after stabilization of physiological disorders, and can be performed even before patients are released from mechanical ventilation (Young et al., 2019; Wang et al., 2020). The first minutes and hours from the onset of signs and symptoms are firmly related to the patient's prognosis, effective assessment, diagnosis, and decision-making promote lower chances of mortality and better recovery and long-term quality of life (Boulanger et al., 2018), so it is essential to work with the multidisciplinary team in the care of these patients (Santos et al., 2020; Ferreira et al., 2019).

The objective of the present study was to analyze the profile of neurological emergencies and physical therapy performance, to discuss the effective conducts in physical therapy care in the face of this demand in the emergency room sector.

METHODOLOGY

ETHICAL ISSUES

The present study was submitted to the Research Ethics Committee (REC), the Institutional Research Advisory Committee (CAPI) and the Medical Ethics Committee of the hospital in question. CAEE: 75313823.0.0000.5515.

SAMPLE DESCRIPTION

Based on the shift change forms of the physiotherapy team that works in the emergency room of a high-complexity hospital in the interior of the State of São Paulo, patients who fit the profile of the research were selected. Regardless of age, they had a diagnostic hypothesis of neurological characteristics and went through some sector of the emergency room and received physical therapy care (emergency room, semi-intensive care unit and infirmary). Patients with entry due to other pathologies were excluded, due to lack of data regarding the diagnostic hypothesis.

STUDY DESIGN

Observational study (Fernanda et al., n.d.), carried out in a high-complexity hospital in the interior of the State of São Paulo, where 576 shift change forms from August 2022 to August 2023 were analyzed, used on duty by emergency room physiotherapists and age-related data were collected, gender, neurological diagnostic hypothesis, the sector in which it is found and the physical therapy conduct that was performed as an aid to orotracheal intubation, ventilatory support and mechanical ventilator management, airway and orotracheal aspiration, mobilizations, etc.

DATA ANALYSIS METHODOLOGY

The research was divided into three moments: Moment 1 (M1) initial data collection and tabulation; Moment 2 (M2): elaboration of a quantitative descriptive analysis of the most common pathologies. The GranphPad Prism 5 software was used for the elaboration of this analysis; Moment 3 (M3) bibliographic search and discuss the effective conducts in physical therapy care when the neurological patient is in this sector.

METHODOLOGICAL PROCEDURES

M1: Based on the committee's approval, medical records of patients treated from August 2022 to August 2023 were consulted, selected from the physiotherapy team's shift change form. Gender, age, neurological diagnostic hypothesis and physical therapy approach were collected from these patients. Thus, they were listed in a table developed in Microsoft Excel®. M2: After data collection in the

stipulated period, it was described in the form of static graphs and tables, outlining the population profile and also the prevalence of neurological emergencies. M3: At the end of all the tabulation and statistics, an active search was carried out in bibliographies and discussion of effective conducts in physical therapy care when the neurological patient is in this sector.

RESULTS

The physiotherapy team's shift change records for the period from August 2022 to August 2023 were analyzed, resulting in a total of 576 records, during the analysis, the first time the patient entered the sector were counted, resulting in 1619 patients. Of these, 192 meet the profile of neurological emergencies, with a percentage of 11.85% in relation to the total, of which 72 were women (37.5%) and 120 men (62.5%). The characterization of the sample is shown in Table 1.

Table 1 – Characterization of the sample. N: Sample Number. Values expressed as a percentage (%). SAH: Systemic Arterial Hypertension.

CHARACTERISTICS			N 192
GENDER	**N°**	**MEAN STANDARD DEVIATION**	
MALE	120(62,5%)	-	-
FEMALE	72 (37,5%)	-	-
AGE (YEARS)	-	65,5	15,2
CONCOMITANT PATHOLOGIES			
HAS	124(64,5%)	-	-
DIABETES MELLITUS	47(24,47%)	-	-
SMOKING	30(15,62%)	-	-
ETILISM	29(15,10%)	-	-

Source: Authors

Table 1 presents the characterization of the sample, where the highest number of cases involving males was observed, with an age group of around 65 years, and the concomitant pathology present in most cases was systemic arterial hypertension.

Table 2 – Pathologies found within the sample of patients who fit the study. H: Hemorrhagic. I: Ischemic.

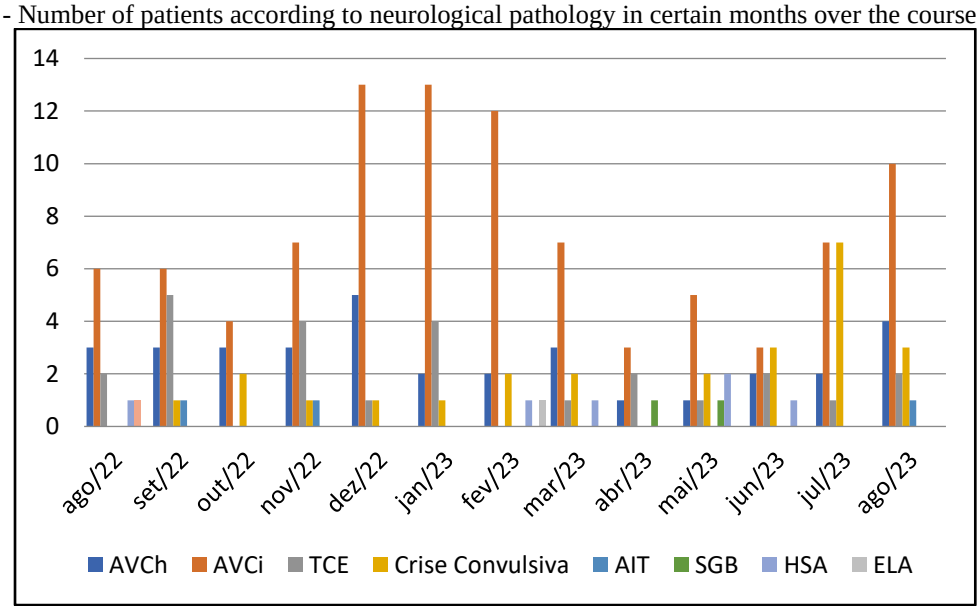
PATHOLOGIES	N192
	N (%)
Cerebrovascular Accident (H)	34 (17,7%)
Cerebrovascular Accident (I)	96 (50%)
Traumatic Brain Injury	25 (13%)
Convulsive seizures	25 (13%)
Transient Ischemic Attack	03 (1,56%)
Guillian-Barré syndrome	02 (1,04%)
Subarachnoid hemorrhage	06 (3,12%)
Amyotrophic Lateral Sclerose	01 (0,5%)

Source: Authors

Among the neurological emergencies in this period, eight pathologies were found described in

Table 2 and their quantities, the pathology with the highest prevalence was ischemic stroke, which represented 50% of the patients in the present study.

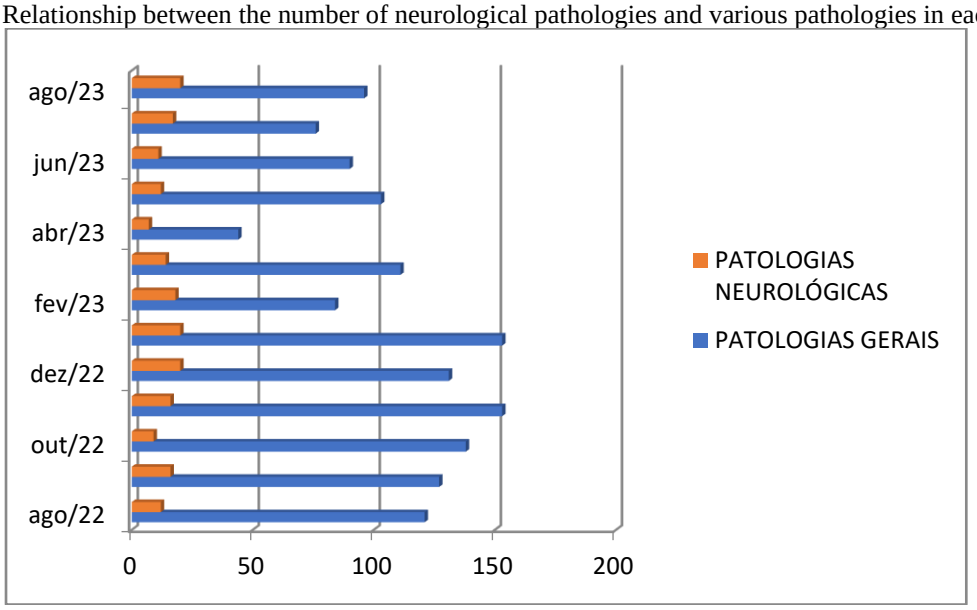
Figure 1 - Number of patients according to neurological pathology in certain months over the course of a year.



Source: Authors

Figure 1 shows the number of patients treated each month according to a given neurological pathology, where ischemic stroke had a predominance of cases in all months over the course of a year compared to other pathologies, and stood out with the highest rate of cases in December 2022 and January 2023.

Figure 2 - Relationship between the number of neurological pathologies and various pathologies in each month.



Source: Authors

Figure 2 shows the relationship between patients who were admitted to the emergency room due to

several emergencies versus neurological emergencies within a one-year period, showing a higher number of cases of general pathologies when compared to neurological pathologies.

Table 3 – Physical therapy procedures applied during the neurological patient's stay in the emergency room. TOC: Orotracheal cannula / VAS: Upper airways.

CONDUCT	APPLICATION
Management of Mechanical Ventilation	132
Aspiration (TOC/VAS)	56
Breathing Exercises	12
Passive Exercises	16
Metabolic Exercises	2
Active Assisted Exercises	17
Free Active Exercises	27
Bedside Sedation	12
Orthostatism	0
Ambulation	4
Bronchial Hygiene Maneuver	15
Orotracheal Intubation Aid	44
Cardiopulmonary Resuscitation	6
Oxygen Therapy	10
Non-Invasive Ventilation	1
Apnea Test	4
Bed Positioning Adjustment	23
Physical Therapy Evaluation	10
Extubation	2
Facial Mimicry Exercise	1
Electronic Bipap	1

Source: Authors

Table 3 shows the main physical therapy procedures applied during the patient's stay in the emergency room, and the most prevalent physical therapy procedures were mechanical ventilation management, orotracheal cannula or upper airway aspiration, and orotracheal intubation aid.

Table 4 – Applied conducts vs. neurological pathologies. TOC: Orotracheal cannula / VAS: Upper airways.

CONDUCT	AVCh	AVCi	TCE	CC	HAS	SGB	HSA	SHE
Management of Mechanical Ventilation	✓	✓	✓	✓	✓	✓	✓	-
Aspiration (TOC/VAS)	✓	✓	✓	✓	✓	✓	✓	-
Breathing Exercises	✓	✓	✓	✓	✓	✓	✓	-
Passive Exercises	✓	✓	-	-	-	✓	✓	-
Metabolic Exercises	-	✓	✓	-	-	-	-	-
Active Assisted Exercises	-	✓	-	-	✓	-	-	-
Free Active Exercises	✓	✓	-	✓	✓	-	-	-
Bedside Sedation	-	✓	-	-	-	-	-	-
Orthostatism	-	-	-	-	-	-	-	-
Ambulation	-	✓	-	-	-	-	-	-
Bronchial Hygiene Maneuver	✓	✓	✓	-	-	✓	-	-
Orotracheal Intubation	✓	✓	✓	-	-	-	✓	-

Aid								
Cardiopulmonary Resuscitation		✓	✓	-	-	✓	-	-
Oxygen Therapy	✓	✓	-	-	✓	✓	✓	-
Non-Invasive Ventilation				✓				
Apnea Test	✓	✓	-	-	-	-	-	-
Bed Positioning Adjustment	✓	✓	✓	✓	-	-	-	-
Evaluation Physiotherapy	✓	✓		✓	✓	-	-	-
Extubation								
Facial Mimicry Exercise	-	✓	-	-	-	-	-	-
Ventilatory Support (Electronic Bipap)	-	-	-	-	-	-	-	✓

Source: Authors

Table 4 shows the physical therapy procedures performed in each neurological pathology, the most prevalent physical therapy procedures were mechanical ventilation management, orotracheal cannula or upper airway aspiration and breathing exercises, the neurological pathologies that required the present procedures were hemorrhagic stroke, ischemic stroke, traumatic brain injury, seizures, transient ischemic attack, guillian-barré syndrome, and subarachnoid hemorrhage.

DISCUSSION

This study evidenced the profile of neurological emergencies and physical therapy performance. Ischemic stroke was the neurological condition that most frequently caused hospitalization in the hospital emergency unit, and the most commonly used physical therapy procedures for this condition were orotracheal intubation, management of invasive mechanical ventilation, orotracheal aspiration/upper airway (VAS), metabolic exercises, free active exercises, assisted active exercises, breathing exercises, bronchial hygiene maneuver, bedside sitting, ambulation, bed positioning adjustment, oxygen therapy (nebulizer mask/oxygen catheter) and evaluation.

A prevalence of males was highlighted, a result consistent with the propensity of occurrence in this population due to the high prevalence of exposure to risk factors such as smoking, alcoholism (Francisco et al., 2019; Santos & Waters, 2020).

The comorbidity that has the greatest correlation with stroke is systemic arterial hypertension, and later diabetes mellitus (DM), the risk of developing stroke in diabetic people is higher, since DM is related to worse outcomes, due to hyperglycemia when associated with cerebrovascular diseases it widens the area of ischemic penumbra and consequently increases the post-stroke mortality rate, in addition to

collaborating for the development of new ischemic events. DM contributes to about 25% of stroke cases (Rodrigues et al., 2018).

It is of paramount importance to understand the risk factors responsible for causing the incidence of stroke, in this way it is possible to promote a reduction in cases through public policies that aim at knowledge of the etiological process, risk factors, and population profile (Owolabi et al., 2022).[tag.]

Regarding age, the mean age of the present study was 65.5±15.5 years. Stroke is more frequent in older people, aged around 60 to 71 years, while the severity is increased with the progression of age, according to current studies patients aged 80 years or older develop poorer prognoses (Al Harthi et al., 2021; De Souza & Waters, 2023).

Ischemic stroke was the most prevalent pathology in the present study, accounting for 50% of the pathologies. Data prove that stroke has been the second leading cause of mortality worldwide since the year 2000, in Brazil it also showed a high prevalence of stroke cases, being the leading cause of death in 2017 (Rosário et al., 2022). Brazil had a total of 223,210 hospitalizations and 23,468 deaths from stroke in the period from 2011 to 2020. Hospitalization rates and mortality rates increase according to the age of the patient. According to the American Heart Association (AHA), stroke affects about 795,000 people a year, with 610,000 first-episode and 185,000 recurrent episodes (Al Harthi et al., 2021; Martins et al., 2023). The treatment of stroke shows a hospital cost of approximately 1.8 million dollars over the course of a year, on average each patient provides an average cost of 10 thousand dollars, there is a superiority of treatment costs in patients who undergo thrombolysis or thrombectomy (Vieira et al., 2019; Seetlani et al., 2022). In economically active individuals , stroke has a direct impact on the country's economy, and in Brazil it stands out as the major cause of disability of the population in the age group over 50 years, being responsible for 10% of all deaths, 32.6% of deaths due to vascular causes, and 40% of early retirements in Brazil (Lobo et al., 2021).

Among other therapeutic possibilities for ischemic stroke, venous thrombolysis (VT) is one of the most effective interventions, increasing the chances of a better clinical outcome by up to 30%. At present, VT is indicated for patients 4.5 hours after the onset of symptoms (ictus), respecting the inclusion and exclusion criteria of therapy. Mechanical thrombectomy (TM) is another intervention performed in the acute phase for stroke. Its use has been shown to have a greater than 50% chance of attenuating functional impairment (Rosário et al., 2022). Most patients who are admitted to the hospital emergency department with stroke have a decreased level of consciousness, requiring invasive mechanical ventilation or other forms of respiratory support, as there are chances of developing respiratory failure due to the depreciation of the protective reflexes of the airways or reduction of the respiratory impulse and there is a risk of pulmonary complications. such as pneumonia and acute respiratory distress syndrome. Mechanical ventilation is used as a device that aims to ensure optimal oxygen delivery and modulate cerebral

hemodynamics by controlling arterial carbon dioxide pressure (Robba et al., 2020).[tag.] Therefore, the physical therapy approach should be directed to assist the orotracheal intubation, being responsible for ventilatory support and subsequently performing the management of the mechanical ventilator attached to the patient, since mechanical ventilation in critically ill patients has to effectively promote the reduction of inspiratory muscle overload and provide a safe ventilation dynamic. improving gas exchange and protecting the lungs, for this to occur it is necessary for the mechanical ventilator to be synchronized with the patient's breathing rhythm (Esperanza et al., 2020). Regarding motor activities , early mobilization for patients with acute stroke promotes improved functionality, due to increased neural plasticity during the acute phase of stroke, which highlights that this phase is possibly the period in which patients supposedly demonstrated better response to rehabilitation training. Evidence reports that in the future in Japan, acute rehabilitation should be provided in an intensified manner (Kakuda, 2020).

The second cause of hospitalization due to neurological involvement was hemorrhagic cerebrovascular accident (hCVA), which corresponds to approximately 20% of all strokes, with non-traumatic intracerebral hemorrhage (ICH) being the most common type, demonstrating a disproportionately higher risk of early mortality and long-term disability. It occurs due to primary or secondary causes that include cerebral venous thrombosis (CVT), rupture of congenital vascular malformations, or dural arteriovenous fistulas (dAVF) (Montaño et al., 2021).

The manifestation of stroke symptoms is usually acute and progressive. Acute-onset headache, vomiting, neck stiffness, elevated blood pressure, and neurologic signs of accelerated development. Symptoms can lead to the extent and location of the bleeding. Cerebellar hemorrhage promotes symptoms of elevated intracranial pressure, such as lethargy, vomiting, and bradycardia. Progressive neurological lowering reveals increased hematoma or increased edema, whereas the clinical features of subarachnoid hemorrhage are severe headache, vomiting, syncope, photophobia, nuchal rigidity, seizures, and degradation of the level of consciousness (Unnithan et al., 2023).

Treatments for stroke include the removal of intracranial blood clots or intraventricular blood through an invasive surgical procedure and the management of intracranial pressure to effectively reduce mortality (Eun Chae Lee et al., 2022). Regarding the initial physical therapy management of these patients in the present study, conducts involving the respiratory system were observed, such as orotracheal intubation, mechanical ventilation management, bronchial hygiene maneuvers, as well as motor exercises such as passive and free active, in some cases the apnea test was also performed during the brain death protocol. Physical therapy rehabilitation in stroke aims to maintain the integrity of the respiratory airways, as well as to evaluate motor, sensory and functional function, because the acute phase is a great time to perform physical therapy interventions since at this time there is a greater window of opportunity to rescue neurons that have not yet been affected and establish new connections in place of those that have been

affected. it should be performed gradually and progressively, stimulating sensitivity, stretching, functional training, motor relearning, such as sitting out of bed, standing with and without support support, change of posture such as sitting to standing and standing to sitting, aiming to avoid complications secondary to immobility, such as infections, pneumonia, deep vein thrombosis, among others (Ferreira et al., 2019). Acute respiratory distress syndrome frequently develops in patients with acute brain injury, requiring the use of invasive mechanical ventilation (IMV), which requires careful attention to the ventilatory strategy, regarding the appropriate tidal volume, plateau pressure, and positive pressure at the end of expiration, in order not to provide other important lesions related to the pulmonary system and brain, and that it does not cause repercussions on intracranial pressure and cerebral perfusion pressure (Taran et al., 2023). IMV promotes mucus retention, which makes it necessary to perform secretion removal techniques, but they can result in a momentary increase in intrathoracic pressure, reducing venous return and raising intracranial pressure, so techniques that aim to increase expiratory airflow should be performed quickly in order to avoid significant increases in intracranial pressure. as it can generate a reduction in cerebral blood perfusion pressure in penumbral areas, which will be responsible for part of neuroplasticity (Rodrigues-Gomes et al., 2022).

The third cause identified is seizures that are characterized by an abnormality and lack of control of the electrical activity of the brain that can result in behavioral changes, as well as changes in the level of consciousness, memory or feelings. Partial seizure is the most frequent type of seizure in adults, first activating the cortex area and manifesting itself through simple symptoms, such as motor or sensory phenomena. In cases of generalized seizures, cortical activation is diffuse at the onset of seizures or partial generalized activity (Huff & Murr, 2023). Epileptic seizures can be triggered by some causes such as fever, traumatic brain injury (TBI), hemorrhagic stroke, encephalitis, meningitis, metabolic disorder (Alyoubi et al., 2021). The treatment approach for seizures is directed to the use of benzodiazepines, specifically intravenous (IV) lorazepam or intramuscular (IM) midazolam, classified as first-line agents, with IV lorazepam being the first choice for its efficacy and speed in controlling seizures if a catheter is already in place, its use may be associated with reduced endotracheal intubation rates (Rosenthal, 2021). It is common knowledge that exercise can provide hemodynamic changes with its physiological mechanisms, however, there are no studies to elucidate physical therapy procedures in patients with this emergency situation. However, it is important to have a multidisciplinary evaluation regarding the functional aspect and prognosis of comorbidities.

Another very common condition is traumatic brain injury (TBI), which can occur due to a fall, blow to the head or body, or an object that pierces the skull and hits the brain (Georges & Booker, 2023). Currently recognized as an important public health problem in Brazil, until 2012, it had an estimated 500 cases per 100 thousand inhabitants, providing a cost of more than US$ 250 million with 998,994

hospitalizations by the Unified Health System (SUS), thus presenting an average cost of US$ 239.91 per hospitalization, in the period between 2008 and 2019 occurred, in Brazil, approximately 131,014.83 hospital admissions during the year due to TBI occurrences (Carteri & Silva, 2021). Treatment for TBI patients aims to prevent diseases that may result in secondary injury, caused by hypotension, hypoxemia, hypercapnia, cerebral edema, increased intracranial pressure (ICP), reduced cerebral perfusion pressure (PCP) and cerebral ischemia, these factors may result in additional lesions to the brain, intensifying the aggravation of the initial injury. Immediate evaluation of the airway and oxygenation of the patient upon arrival is necessary. Oxygen therapy should be initiated if the oxygen saturation is less than 90% and the need for intubation should be anticipated in case of decreased level of consciousness or respiratory changes that indicate the management (Roberson et al., 2021; Hofer & Schwab, 2019). Physical therapy treatment in cases of TBI begins with a thorough evaluation of the medical record, since the patient is in a patient with an impaired state of health, the medical record contains information regarding the restrictions and care that should be taken at the beginning of the management of the patient, preventing the occurrence of hemodynamic and clinical complications in general, due to the possible use of invasive mechanical ventilation and monitoring of intracranial pressure (ICP), as well as a contraindication for mobilizations in maximum amplitude. Therefore, the physical therapy practices used to obtain functionality include, for example, mobilizations that will be performed according to the patient's degree of interaction, which can be passive, active-assisted or active, in addition to the use of cycle ergometer, electrostimulation and proprioceptive neuromuscular facilitation (PNF). Thus, it is concluded that early mobilization in critically ill patients is indispensable (Kreitzer et al., 2019; Lee et al., 2019).

The scheduling of exercises and their continuity will have a direct impact on the prognosis of these patients. The research showed that the profile of patients in neurological emergencies was 11.85% in relation to the total, it can be observed that the predominance of hospitalizations involves external causes (trauma), cardiovascular, gastrointestinal and musculoskeletal causes.

The strengths of this study include the elucidation of the profile of neurological emergencies and which physiotherapeutic approaches are performed. Thus, we demonstrate which physical therapy procedures are most frequent and how to proceed in patients with this profile, thus promoting an ideal direction for physical therapy professionals in the emergency situation of these patients.

Regarding the limitations, we observed the incorrect completion of the evolution forms by the professionals, thus, some patients did not present a diagnostic hypothesis, age, and the conducts applied. Studies that emphasize physical therapy interventions in emergency units should also be emphasized, since few studies show this care profile. It is also important to have regulations that support professionals and their work when faced with situations that require advanced life support.

CONCLUSION

It is concluded that the profile of neurological emergencies predominantly involves ischemic stroke, corresponding to 50% of the patients in the study, and that it has a direct relationship with systemic arterial hypertension, which is shown to be an important risk factor, it is extremely necessary to implement public policies aimed at promoting the health of the population. in order to reduce cerebrovascular events. The physical therapy approaches observed by the study demonstrated a greater focus on conducts related to the respiratory system, and a lower prevalence of action aimed at the motor system and early mobilization, which is justified by the fact that priority occurs in situations of intercurrences that promote risks to life and are commonly prevalent in this sector, directly interfering in conducts aimed at early mobilization.

For future studies, we suggest evaluating the length of stay of patients in the emergency room in order to observe whether the low rate of early mobilization is related to their rapid transfer to the intensive care unit (ICU).

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