

Palliative Care: Multidisciplinary Approach to People with Traumatic Brain Injury



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ABSTRACT

Objective: To analyze the palliative care provided by a multidisciplinary team to people with traumatic brain injury according to the literature.

Methodology: We opted for an integrative literature review of a qualitative type with a descriptive approach. To assist in collection, the PICo acronym strategy was used, with a time frame from 2018 to 2023, and the data were analysed according to the Bardin content method. This review was reported according to the PRISMA statement.

Results: The literature search resulted in a total of 479 publications for preselected and identified terms, and only 16 articles were included in the review. From the analysis of the results on multidisciplinary care, two categories were created to expose the scientific evidence on “palliative care in neurological patients” and the “multidisciplinary team approach to people with traumatic brain injury”. Therefore, palliative care is considered relevant in the care of people with traumatic brain injury, as it establishes a competent bias for the patient's therapeutic process, including physical, mental, affective, and social attention and care, improving the quality of care for patients. and their families.

Conclusion: This review allowed us to recognize the relevance of palliative care for trauma patients, their families and even their health teams, as they work in planning and implementing improvements in intensive care through an approach involving qualification and integration of patients and their families.

KEYWORDS: Palliative care; Hospital discharge planning; Head trauma; Multidisciplinary team.

INTRODUCTION

Traumatic brain injury (TBI) is defined as a neurological clinical condition that causes cognitive, functional, and biopsychosocial impairment in affected individuals. TBI can be described as trauma or aggression to the brain and is characterized by traumatic anatomical and disabling injuries to the scalp, skull, brain, and/or cerebral vessels. These injuries are caused by physical agents, such as assaults, traffic accidents (pedestrian accidents, motor vehicle accidents, cycling accidents), firearm accidents, and disasters [1].

Currently, traumatic brain injury (TBI) has been recognized as a significant public health problem and typically results in permanent neurological deterioration. A decline in brain function is defined as a decrease in brain function due to the effects of biomechanical forces, such as rapid acceleration or deceleration of the brain, direct impact from an explosion or blast wave, or penetration into the skull. Injuries associated with trauma can lead to mechanical damage as well as possible adverse complications, including progressive neurodegeneration, which is the primary cause of disability and TBI-related deaths. Although epidemiological analysis of TBI is acknowledged as essential, having sufficient information is crucial for promoting prevention strategies (to reduce TBI incidence) and reinforcing the role of research in secondary and tertiary prevention, which involves postinjury treatment and rehabilitation [2].

The World Health Organization (WHO) predicts that by 2030, traumatic brain injury (TBI) will become the leading cause of death and disability worldwide. It primarily occurs in adults under 45 years of age, with a higher incidence among those aged >20 to 29. In terms of sex, it affects men more than women, representing up to 80% of the cases. In Brazil, TBI ranks as the third leading cause of death, posing an undeniable challenge to public policy managers, as it predominantly affects the young and

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productive segment of society. According to the Department of Informatics of the Unified Health System (DATASUS), in 2021, the mortality rate was 7.11%. The total annual costs of hospital expenses associated with TBI patients were approximately US\$43,238,319.90, with an average cost per admission of US\$327.68 [2].

The prognosis for traumatic brain injury (TBI) depends on the severity of the injury, and its severity is classified based on the Glasgow Coma Scale (GCS), which is divided into three categories: mild (13-15 points), moderate (9-12 points), and severe (3-8 points). Although parameters such as age, imaging findings, hypotension, and hypoxia are important in the assessment, an electrocardiogram (ECG) minimally standardizes the neurological evaluation of TBI patients and thus provides a reproducible assessment of prognosis. Given the debilitating prognostic indices, investments should be directed toward planning public policies aimed at minimizing traumatic events in traffic, a leading cause of TBI, and emphasizing the importance of special attention given to the geriatric population, which is more susceptible to episodes of hypotension and syncope, which can also lead to TBI [3].

In this context, traumatic brain injury (TBI) emerges as a significant injury associated with traumatic events that occur in the routine of emergency services and often change lives if not fatal. Decision-making is challenging in the care of these individuals, particularly concerning their prognosis, the actual impact of new interventions, and the real potential to alter their quality of life. In this context, Palliative Care (PC) has been one of the most effective and necessary frameworks for treating TBI patients [4].

The goal of palliative care (PC) is not to cure the patient but rather to treat the disease in the early stages of disease, as well as in advanced or terminal chronic conditions. This is a consideration for patients and caregivers. Treatment can be carried out by controlling infections and other comorbidities. Examples include patient repositioning to prevent pressure sores, proper nutrition, outpatient therapy, encouragement of physical activity, maintenance of basic activities, intellectual stimulation, and pain relief. Therefore, it is important to acquire additional information about PCs to ensure quality care for TBI patients [5].

The discussion about Palliative Care (PC) for individuals with Traumatic Brain Injury (TBI) is justified, as it emerges as a humanitarian and essential care proposal for these patients to alleviate their pain and suffering. Several definitions emphasize the need for home-based PC, which should begin with communication with the healthcare team. In 2018, the National Policy for Palliative Care was launched, stipulating that this care should be part of the Health Care Network and that access should be provided by a multidisciplinary team at any point in the network, starting from primary care and home care and extending to specialized hospital care [6].

The Home Care Multidisciplinary Team (EMAD) and the Support Multidisciplinary Team (EMAP) provide assistance when the user experiences health problems and has difficulty or physical inability to travel to a health facility, requiring a higher frequency of care, health resources, and continuous monitoring. In addition to stabilizing their condition, they should also be attentive to special equipment or procedures, with a minimum visit frequency of at least once a week [7].

The planning of care by EMAD and EMAP involves the development of therapeutic approaches by various healthcare professionals, such as doctors, nurses, nutritionists, psychologists, and physiotherapists. These approaches are tailored to the user's reality, aiming to address both objective and subjective demands, promoting the development of personal autonomy, ownership of their care process, and improvements in the quality of assistance.

This approach is based on the comprehensiveness of the individual-family unit [8]. As a result, the objective of this research was to analyse the palliative care provided by a multidisciplinary team to individuals with traumatic brain injury based on the literature.

METHODOLOGY

We opted for a qualitative Integrative Literature Review (ILR) with a descriptive approach. Subjectively, it involved elucidating approaches on the theme in question, with an emphasis on interpreting results and assigning meanings. The ILR was organized into six stages: the formulation of the guiding question, literature search or sampling, data collection, critical analysis of included studies, discussion of results, and presentation of the ILR, aiming to contribute to the advancement of the theme [9].

The data were searched in the Virtual Health Library (BVS) and PubMed databases utilizing the following literary citation databases: Medical Literature Analysis and Retrieval System Online (MEDLINE), Latin American and Caribbean Literature in Health Sciences (LILACS), and Scientific Electronic Library Online (SCIELO). The data were collected by combining the main subjects related to patient care with traumatic brain injury (TBI), along with the terms indexed in the Health Sciences Descriptors (DECS) and Medical Subject Headings (MESH). These terms were associated with Boolean operators AND and ORs, such as traumatic brain injury, brain injury, palliative care, patient discharge planning, and multidisciplinary team membership.

To assist in the collection, the PICO acronym strategy was chosen for the outcome synthesis of the data. In addition to the inclusion and exclusion criteria, original articles were included with a temporal cutoff from 2018 to 2023 in both Portuguese and foreign languages (English and Spanish). The exclusion criteria included doctoral theses, master's dissertations, and undergraduate theses, as well as duplicate articles that did not meet the inclusion criteria, as did abstracts and books.

Table PICO

Acronym	Definition	Variables
(P) – Patient	Patient	Patients with Traumatic Brain Injury
(I) – Interest	Interest	Palliative Care by the Multidisciplinary Team
(Co) – Context	Context	Quality of Healthcare Assistance
Research Question:	What is the impact of palliative care provided by the multidisciplinary team on individuals with traumatic brain injury?	

Strategy and Applied Search for the Research Question.

Source: Developed by the authors, 2023.

In addition, the data were analysed according to Bardin's content analysis method (2016), aiming to provide clarity and facilitate the implementation of a guiding methodology. Its definition is focused on an analytical description, presenting content analysis through categories. This method is divided into three stages: a) Pre-analysis corresponds to the stage of organizing and systematizing the data; b) Exploring materials to understand the data; and c) Processing results (inference and interpretation) and synthesis of the review [10].

RESULTS AND DISCUSSION

The literature search resulted in a total of 479 publications using and identified terms, 243 in the BVS and 236 in PubMed, as shown in the article eligibility flowchart (Figure 1), according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA, 2020) guidelines [11].

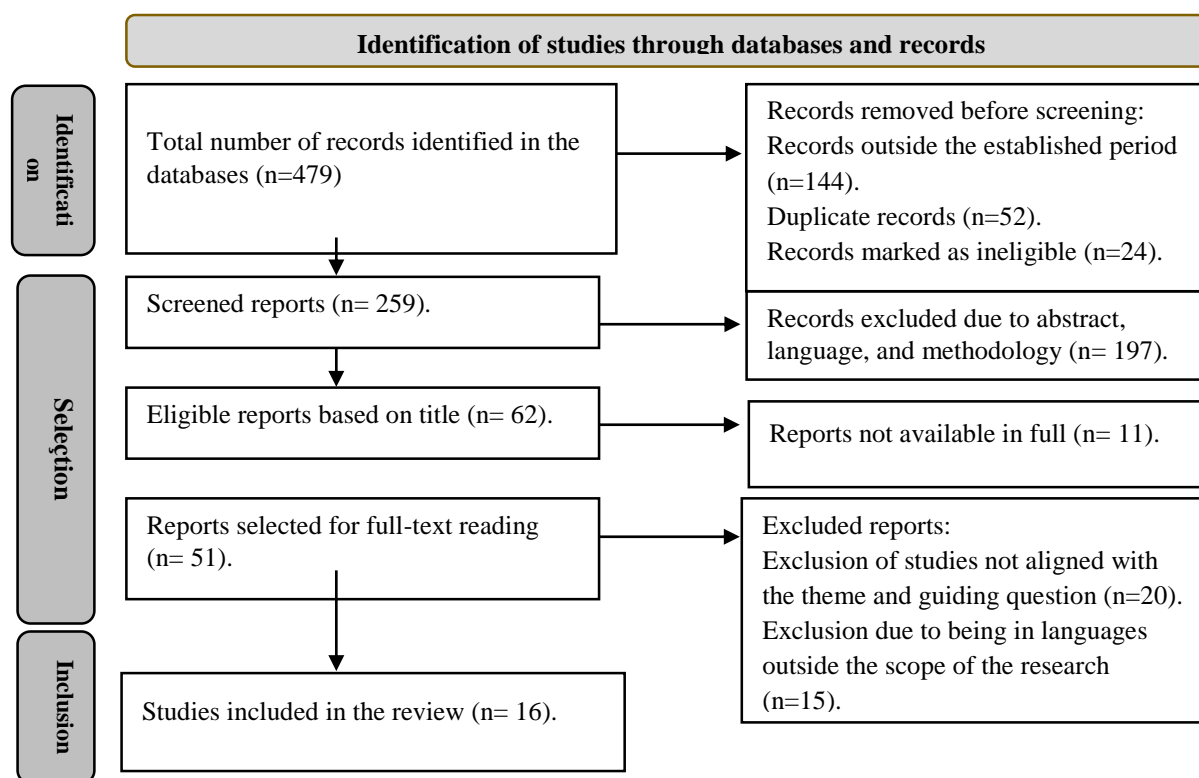


Figure 1. Flowchart of article eligibility

Source: Page et al., 2020.

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After excluding reports (Figure 1), only 16 articles were included in the ILR. For the organization of the results, Table 2 was formulated, describing the following characteristics: article number (No.), authors, year of publication, article title, method, research results, and conclusions.

Table 2. The distribution of articles according to number, author, year, title, objective, and key results.

Nº	Author/Year	Title	Objective	Key Results
1.	Brizzi e Creutzfeldt (2018).	Neuro-Palliative Care: A Practical Guide for the Neurologist.	We will define patient demographics who can benefit from palliative care, describe neuro-palliative care, and examine the fundamental communication and symptom management skills required to deliver palliative care.	Although the basic tenets of palliative care are applicable to patients with neurological conditions, this group presents distinct palliative care requirements stemming from issues related to communication, prognosis, and psychosocial factors. It is imperative for all neurologists to acquire proficiency in essential competencies for proficient symptom control, effective communication, and advance care planning. These competencies are acquirable and ideally should be integrated into routine clinical practice. In the subsequent section, we will delineate crucial skills that all neurologists should develop to deliver exemplary primary palliative care.
2.	Bajwah <i>et al.</i> (2020).	The effectiveness and cost-effectiveness of specialized hospital-based palliative care for adults with advanced illness and their caregivers.	Analyze how well and how affordable HSPC is for adults with advanced disease (referred to as patients) and their unpaid family members in comparison to standard medical care.	Across the four comprehensive economic studies, the data regarding the cost-effectiveness of HSPC in comparison to standard treatment was inconsistent. There were contradictory results (extremely low-quality evidence) from other research that only employed partial economic analyses and others that gave more restricted information on resource utilisation and expenses. Evidence Quality: Due to a high risk of bias, inconsistency, and imprecision, the GRADE evaluation of the evidence quality was very low to low, and it was degraded accordingly.

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3.	Perlick <i>et al.</i> (2020).	Decision-making in palliative care in the traumatic brain injury setting: a case report.	Using a case study of a severe traumatic brain injury to highlight the inherent complexity of ACP decisions based on prognostic models, surrogate disposition, and recommendations from the medical team.	After consulting palliative care to help steer the family's discussions about care goals, the decision was taken to keep the present management in place. Surprisingly, the patient's attentiveness and motor responsiveness to orders had significantly improved by HD 13. He was able to withstand a trial of a T-piece and was effectively weaned off the ventilator. His GCS score increased to 15 by HD 15, and he was sent to a long-term care facility.
4.	Schultz <i>et al.</i> (2020).	Effective Palliative Care in the Context of Trauma.	Comparing and contrasting the best- and worst-case scenarios for a trauma patient's prognosis and expected quality of life.	Within the first 24 hours of the patient's hospital stay, a palliative care assessment should be performed to see if the patient need additional discussions about their care. Patients and their families also reported feeling more connected to the intensive care unit (ICU) team after interdisciplinary talks on palliative care involving various hospital departments and support personnel were added.
5.	Sady <i>et al.</i> (2021).	Neuro-Palliative Care: New Perspectives in Intensive Care.	Three Thematic Cores: Neurocritical Patients, Families, and Intensive Care Teams are highlighted in this analysis of the challenges facing the palliative care approach in the treatment of neurocritical patients.	Care planning and prognostic criteria are the two main objectives for palliative care. Families and intensivists, respectively, noted the need for better communication and training in primary palliative care. In contrast to other illnesses, symptom management was not indicated as a challenging issue, despite its relevance.
6.	Geórgia (2022).	The Intersection of Prognosis and Code Status in Patients with Severe Brain Injury.	Recognising the Relationship Between Cognitive Status and Prognosis in Patients with Severe Traumatic Brain Injury (TBI).	There is always a chance that the decision to stop life support therapy due to the likelihood of a bad outcome will be incorrect. However, giving patients with irreversible injuries extra time to get care could result in unnecessary medical intervention. The prognosis is not a precise science and has been demonstrated to be inaccurate and inconsistent in patients with serious brain injury.

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7.	Goss e Creutzfeldt (2022).	Prognosis, Ethical Issues, and Palliative Care in Disorders of Consciousness.	Defining Disorders of Consciousness (DoC), we outline the most recent research on DoC diagnosis and prognosis and talk about moral dilemmas related to DoC clinical patient care.	Better prognostic instruments are desperately needed in the acute context, where there are more risks and uncertainties. In order to directly involve people with Disorders of Consciousness (DoC) in medical decision-making and to enable therapeutic connection with them, more study is required.
8.	Moura <i>et al.</i> (2022).	Perception of the Care Provided by the Multidisciplinary Team in the Assistance to Oncology Patients in Palliative Care.	Recognising the Function and Viewpoint of the Multidisciplinary Team Care at Santa Marcelina Hospital in Itaquera with Reference to Supporting Palliative Care for Oncology Patients.	The concept of palliative care (CP), interaction with oncology, care itinerary, professional role, interdisciplinarity, and obstacles are the six categories in which the results are presented after undergoing theme content analysis in order to create an interpretative synthesis that complies with the objectives. In order to improve patient and family quality of life and broaden the care network, the role in CP should be multiplicative and reflective.
9.	Silveira e Forte (2022).	Palliative Care and Neurology: A Path to Neuropalliativism.	Expanding knowledge about methods to help individuals with progressive neurological disorders or severe and irreversible neurological disability live more comfortably and with dignity.	Care for existential and psychological suffering, carer needs, and peculiarities of paediatric neurological palliative care are the four trajectories used to advance in care planning, Brazilian normative ethical resolutions, the advantages of evidence-based palliative care, and the peculiarities of palliative care in neurology, such as the control of neurological symptoms. These trajectories are reviewed.
10.	Dolmans <i>et al.</i> (2023).	Palliative Care in Patients with Severe Neurotrauma in the Intensive Care Unit.	Provide suitable palliative care to ICU patients suffering from neurotrauma.	Patients frequently have uncertain prognoses, advance directives are unlikely to be in place, and grieving families are left to make decisions. With an emphasis on young adult TBI patients and the role of their families, this article discusses the various facets of the palliative care approach as well as the obstacles and difficulties that come with treating this demographic of patients.

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11.	Gofton <i>et al.</i> (2023).	Challenges faced by the practice of palliative neurology: a qualitative analysis.	Gaining a conceptual grasp of the unique traits of neurology-specific palliative care and the difficulties involved in delivering palliative care in the setting of neurological illness.	Palliative care in neurology is impacted by specific neurological illness characteristics that have been identified: Timeliness of the disease's advancement, communication obstacles brought on by neurological diseases, variability in the course of the disease, and the threat that neurological diseases' functional and cognitive impairments pose to a person's personality are the first four factors. Furthermore, three primary obstacles were recognised as having influenced and confounded neurology palliative treatment: lack of knowledge about prognosis, attitudes and abilities of carers, care teams, and families.
12.	Pappadis <i>et al.</i> (2023).	Patterns of care and predictors of community residence among elderly patients after hospital discharge for traumatic brain injury.	After acute hospital discharge for traumatic brain injury (TBI), examine community residency and determine the characteristics linked to community residence and readmission within 90 days in Texas.	Eighty percent were still residing in the community at twenty weeks and ninety days after discharge, respectively. An increased likelihood of living in a community at 90 days was linked to female gender (OR = 1.16 [1.08-1.25]), Hispanic ethnicity (OR = 2.01 [1.80-2.25]), "other" race (OR = 2.19 [1.73-2.77]), and previous primary care provider (PCP; OR = 1.51 [1.40-1.62]). A lower chance of living in a community at 90 days was linked to patients over 75 years old, prior nursing home stays, dual eligibility, prior TBI diagnosis, and moderate to severe injury severity.
13.	Soper <i>et al.</i> (2023).	The impact of incorporating an advanced palliative care provider in a neuroscience intensive care unit service.	Showcase the effects of a palliative care programme in a hospital that provides neuroclinical care.	Analysis and comparison were done on all of the data from August 2020 to December 2020 and August 2021 to December 2021. The number of new consultations to the advanced palliative care service increased, according to the results (from 77 in August to December 2020 to 114 in the same period in 2021, a 34% rise). The test was used to compare the 2020 and 2021 variables of new consultations using IBM Corp.'s SPSS for Windows version 25.

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14.	Spencer <i>et al.</i> (2023).	Timing is everything: early or late palliative care consultations in trauma.	Examine the hospitalisation statistics of trauma patients who received early and late PC consults.	Even after accounting for delayed consultation in the late group, trauma patients who had early PC consultation had shorter hospital stays, fewer days spent on a ventilator, a decreased frequency of invasive operations, and lower expenses. These results point to the necessity of systems that result in early PC consultations for patients with severe injuries.
15.	Winters <i>et al.</i> (2023).	Critical Care Literature 2021.	Examine the latest publications and how they affect critical care.	Between 2006 and 2014, there was an approximate 80% rise in the amount of critical care given to critically sick patients in the Emergency Department (ED). The number of patients treated in the emergency room who were intubated rose by about 16% during the same time period. Emergency department personnel are frequently entrusted with providing critical care much beyond the first resuscitation period, in addition to treating more seriously sick patients. Extended stays in the emergency room for patients in severe condition are linked to longer stays in the intensive care unit and longer periods of mechanical breathing.
16.	Wu <i>et al.</i> (2023).	Early Palliative Care Consultation Offsets Duration and Costs of Hospitalization for Elderly Patients with Traumatic Brain Injuries: Insights from a Level 1 Trauma Center.	Examine how early PC intervention affected the typical length of hospital stay for senior patients with severe TBI between 2016 and 2020.	Due to their advanced age, significant brain injuries, and pre-existing dementia, older TBI patients are more prone to get PC. Patients who saw a PC consultant spent more money and had longer hospital stays. Nevertheless, earlier PC involvement lessened these impacts. Our research highlights the importance of prompt PC consultation for patients who are at risk. Due to their advanced age, significant brain injuries, and pre-existing dementia, older TBI patients are more prone to get PC. Patients who saw a PC consultant spent more money and had longer hospital stays. Nevertheless, earlier PC involvement lessened these impacts.

Source: Results of the articles used in the review. Developed by the authors, 2023.

Considering the findings on PCs throughout the review, it is plausible to assert that the multidisciplinary approach is a meticulous task that requires the collaboration of administrative and healthcare areas, aiming at brain rehabilitation after TBI. This ensures that therapies that stimulate the body can regain the ability to perform affected functions. Therefore, PC is considered relevant in providing assistance to individuals with TBI, as it establishes a competent bias for the patient's therapeutic process, including physical, mental, emotional, and social care, improving the quality of care for TBI patients and their families.

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From the analysis of the results on PCs in general and multidisciplinary care, two categories emerged to present scientific evidence on "palliative care in neurological patients" and the "multidisciplinary team approach to individuals with traumatic brain injury".

Category 1 - Palliative Care in Neurological Patients

PC is an approach aimed at treating patients with severe illnesses and improving their quality of life along with that of their families. This treatment is suitable for all, including diagnosis, and can progress according to the patient's needs as the disease progresses. PC approaches focus on relieving physical, emotional, and spiritual suffering. Additionally, communicating treatment priorities is an essential part of PC and requires expertise in managing difficult conversations, responding to emotions, and discussing patient wishes [12].

Similarly, the study by Goss and Creutzfeldt [13] highlights that PCs are strategies for preventing and alleviating physical, social, psychological, and spiritual suffering, spanning from symptom management to final diagnosis. It demonstrates skills in recognizing subtle signs of consciousness and addressing all patients as if they were conscious, identifying and treating reproducible signs of pain, agitation, and delirium. Additionally, it involves providing pleasant experiences and minimizing uncomfortable experiences for all patients, including those whose subjective experience is unknown.

In accordance with Bajwah [14], minimizing patient suffering requires the implementation of specialized hospital-based palliative care (HSPC), which is designed to improve patient care and address the needs of patients and their families. This approach can potentially reduce physical and emotional suffering as well as hospital care expenses. Furthermore, palliative care should be provided to patients continuously. It is an essential component of palliative care; referring to the assistance a patient should receive during the last stage of life, from the moment it becomes clear that they are in a state of progressive and inexorable decline, approaching death [15].

According to Schultz et al. [16], primary palliative care should occur "in parallel" with the treatment of traumatic injuries, with the care unit identified as the link between the patient and the family. The author emphasizes that discussions about palliative care in the context of trauma present a set of challenges, as the patient often cannot be directly involved in discussions about care goals and may require invasive interventions that demand quick decision-making. These challenges are interconnected with uncertainty about prognosis; the availability of support; disease trajectory; inconsistency in information, attitudes and skills among caregivers; multidisciplinary care; caregivers; and families. Additionally, existential suffering specific to neurological diseases, including psychological and emotional suffering resulting from the loss of function, autonomy, and even the death of the patient. In other words, these discussions about palliative care aim to improve the delivery of care [17].

Wu et al. [18] identified another challenge: the low rate of palliative care consultations with multidisciplinary teams for elderly patients with traumatic brain injury (TBI), for which the average duration was 8.6 days. In other words, patients receiving palliative care had longer hospitalizations, more days intubated, and higher costs. Although specialized palliative care is available in the hospital or at home, all professionals can strive to provide primary neuropalliative care to their patients. Multidisciplinary neuropalliative care can be considered a new and growing field within neurology that focuses on improving the quality of life of individuals with severe neurological diseases, benefiting patients, communicating with healthcare teams, and managing essential symptoms for the provision of palliative care [12].

To ensure the delivery of quality palliative care, Soper et al. [19] emphasize that hospital services must work collaboratively with the primary care team to ensure a safe environment for the patient, ranging from hospitalization to additional guidance in the home setting, providing support and symptom management for patients dealing with trauma. Thus, the presence of all members of a multidisciplinary team during care is essential for obtaining a better understanding of the role of palliative care. Considering that patients with traumatic brain injury (TBI) who receive multidisciplinary care and have a shorter length of stay, fewer ventilation days, lower rates of invasive procedures, and lower costs, these are quality care strategies for TBI patients [20].

Category 2 – Multidisciplinary Team Approach to Individuals with Traumatic Brain Injury

Traumatic brain injury (TBI) is one of the most common causes of disability in critically ill patients, often caused by a reliance on surrogates to make medical decisions based on their presumed wishes and estimated prognosis. Surrogates often have to make difficult decisions about care goals, ranging from continuing care to withdrawing life-sustaining medical interventions. In this context, palliative care teams are consulted to help guide discussions on medical management with family members, especially during the management of patients with TBIs, which is challenging for healthcare teams during their interventions [21].

According to the World Health Organization (WHO), palliative care is an approach provided by a multidisciplinary team aimed at improving the quality of life for patients facing life-threatening illnesses, as well as for their families and/or caregivers. Additionally, the healthcare team's role is to offer psychosocial support, identify the patient's physical needs, establish a follow-up plan addressing palliative care needs, and practice humanization. Healthcare professionals should possess communication

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skills, emphasize nonabandonment, and provide continuous emotional support throughout the follow-up process, offering advance guidance regarding the dying process and facilitating grief support when necessary [22, 13].

The skills of communication and care goals are interconnected in communicating with patients and caregivers, demonstrating empathy and compassion, and providing clear and objective guidance on patient treatment. Additionally, the team responsible for patients with TBI should effectively communicate information to surrogate decision-makers in the language they understand, offer evidence-based prognostic estimates and avoid overly negative or positive prognoses, as well as refrain from assumptions about the quality of life of noncommunicative patients. Another crucial factor for quality care is providing advanced guidance on treatment trajectories and helping decision-makers establish care goals based on the patient's values, objectives, and treatment preferences. Ethical principles are incorporated during care planning, communication, and decision-making among interdisciplinary team members [13].

According to Brizzi and Creutzfeldt [12], developing a palliative care plan for neurological patients can be beneficial during care decision-making. In this context, the authors emphasize the relevance of a palliative care plan tailored to the progression of neurological diseases to help identify specific needs, such as observing the patient's clinical status during rapid or prolonged decline, managing demands for symptom management, and preventing caregiver burnout for those experiencing prolonged decline. This approach aims to alleviate exhaustion and fatigue during patient care. Neurological palliative care requires meticulous management in the ICU, identifying factors associated with admission to community residence after acute hospital discharge for TBI, as well as in cases of readmission of chronic TBI patients [23].

From this perspective, Dolmans et al. [24] indicate that the palliative care approach focuses on noncurative aspects throughout intensive care unit (ICU) care until hospital discharge. In this regard, this article highlights the different aspects of the palliative care approach, as well as the barriers and challenges accompanying the population of TBI patients, with a particular focus on young adult patients with TBI and the role of their families. The importance of medical intervention and recommendations in ICU care, including cardiac arrest, postcardiac arrest care, intubation and extubation, mechanical ventilation, fluid resuscitation, cardiogenic shock, transfusions, sepsis control, and effective and adequate communication, should be emphasized to successfully implement the palliative care approach in standard ICU care, improving the quality of care for TBI patients and their families [25].

According to Soper [18], addressing the standard multiprofessional care of the neuroscience ICU involves understanding that persistent cases are complex and acute and often require collaboration from various services and sectors essential for providing efficient and adequate care. Thus, TBI patients need not only physical care but also social, psychological, and spiritual support, some of which can be provided by services available from primary care teams [16].

Research by Silveira and Forte [26] highlights that many professionals still perceive Palliative Care (PCs) as relevant only when there is no longer the possibility of curative treatment. However, PCs are approaches for preventing suffering in adults and children with potentially fatal diseases, seeking early identification and integrated control in treatments that modify the disease, starting from the diagnosis of a serious condition, such as traumatic brain injury (TBI). The goal of multidisciplinary PCs is not to hasten death or limit treatments but to provide comfort and align disease treatment with what matters to the patient. Estimating the prognosis accurately for patients with brain injury can be challenging, but this approach is crucial because it largely determines the level of care we provide, from aggressive treatment for patients we anticipate could have a good outcome to withdrawing treatment for those we expect to have a poor outcome. An accurate prognosis is necessary for ethical decision-making [26].

Pursuant to Schultz [16], a multidisciplinary team must explain the current prognosis and the extent of injuries in understandable terms for the recipients of this information. In addition to isolated situations or when care goals have been clearly established, such as making significant decisions about withdrawing life-sustaining medical treatment, the family needs time to process the initial shock of the patient's injuries and implications. Informed decision-making gives healthcare professionals an idea of who the patient is as a person and who acts as an advocate for the patient. Therefore, multidisciplinary care is a set of actions that allows broad and diversified intervention, promoting the humanization of care and quality of life in patients in the face of palliative care (PCs) [15].

CONCLUSION

The results of this literature review showed that healthcare team assistance in palliative care focuses on recognizing and treating signs of pain and agitation and providing pleasant experiences while minimizing uncomfortable experiences for all patients and their families. The multidisciplinary team plays a crucial role in the prognosis of traumatic brain injury (TBI), providing support throughout the course of the disease through attitudes and skills among caregivers. However, multidisciplinary teams take the lead in this process, providing qualified decision-making.

Furthermore, this review has allowed for the recognition of the relevance of palliative care for patients with TBI, their families, and even their healthcare teams, as they work on planning and implementing improvements in intensive care through a

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qualified and integrated approach, respecting patients and their families. Thus, this study is expected to significantly contribute to assisting healthcare professionals in palliative care for individuals with TBI.

DECLARATIONS

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AUTHORS' CONTRIBUTIONS

IMCC wrote the main manuscript.

MCAF reviewed the manuscript and make considerations.

JNL tabulated and organized the research data

All authors reviewed the manuscript.

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AVAILABILITY OF DATA AND MATERIALS

All data or analyzed during this study are included in the published article

DECLARATIONS

Ethics approval and consent to participate

N/A – not considered human subjects research.

CONSENT FOR PUBLICATION

N/A.

COMPETING INTERESTS

The authors declare no competing interests

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