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The importance of motor physiotherapy in critical patients in the ICU

A importância da fisioterapia motora em pacientes críticos na UTI

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ABSTRACT
In the hospital environment, the care provided by health professionals aims to recover the clinical condition of patients, so that they can return to the reality in which they are inserted with quality of life. As a result of technological and scientific developments and multidisciplinary follow-up, the survival of critically ill patients has increased. The objective theme is to scientifically address the importance of this study's research as motor physiotherapy in adult patients admitted to the ICU. This is an integrative review study; Thus, allowing the synthesis of works to carry out a broad methodological approach regarding reviews, starting from the inclusion of experimental and non-experimental studies for a complete understanding of the analyzed phenomenon The search in the databases resulted in 7 articles that supported the discussion. Physiotherapy has been playing an important role in the clinical recovery of these individuals, bringing functional benefits. In view of the research carried out, it is concluded that motor physiotherapy in critically ill patients in the intensive care unit can be performed in several ways, with passive methods, assisted active, assisted, resisted, with cycle ergometer, sedation and ambulation, however, the techniques should only be used with the patient's hemodynamic stability.

Keywords: Motor physiotherapy, Intensive care units, Intensive care, Physiotherapy.

1 INTRODUCTION

In the hospital environment, the care provided by health professionals aims to recover the clinical condition of patients, so that they can return to the reality in which they are inserted with quality of life. As a result of technological and scientific developments and multidisciplinary follow-up, the survival of critically ill patients has increased (GONZAGA et al., 2017).

Thus, critically ill patients, characterized by being unstable, with a severe prognosis, and at high risk of death, represent another reality, in which the goal of care is centered on maintaining the subject's life, often without an estimate of hospital discharge (SILVA, 2021). Thus, immobility, physical deconditioning and muscle weakness end up being frequent problems that are associated with greater disability and prolonged rehabilitation (MARTINS; TOLEDO; SANTOS, 2018).

According to Silva (2021), the muscle weakness of critically ill patients is diffuse and symmetrical, affecting the appendicular and axial skeletal striated muscles. Proximal muscle groups are generally more affected than distal muscles, with variable involvement of deep tendon reflexes and sensorimotor innervation (REIS; MACEDO, 2018). Critically ill patient polyneuropathy is quite common in Intensive Care Unit (ICU) patients undergoing MV for more than 7 days, affecting 25.3% of patients. This finding is worrisome due to the fact that neuropathy is responsible for prolonging the duration of MV and the subject's stay in the ICU (GONZAGA et al., 2017).

There are several factors that can contribute to the occurrence of neuropathies in critically ill patients, the main ones being: advanced age, female gender, *diabetes mellitus*, metabolic abnormalities, hyponatremia, hyperuremia, hyperglycemia, prolonged use of medications (such as corticosteroids, sedatives and neuromuscular blockers), dysfunction in two or more organs, MV, long ICU stay and immobility (GONZAGA et al., 2017).

Thus, the diagnosis of neuropathic dysfunctions is complex and made difficult by the level of consciousness of the patients, which, in many cases, is diminished because they are sedated and unable to cooperate in tests and evaluations. Thus, it is necessary to use complementary tests to conclude the clinical diagnosis (GONZAGA et al., 2017).

Therefore, it does not have any effective therapy for the treatment of neuropathy in critically ill users. However, under the multidisciplinary approach, there is already evidence of effectiveness about the physical therapy approach, helping in the recovery of patients. In this reality, in addition to "just treating", health professionals should use prophylactic measures to prevent musculoskeletal complications in the patient, and the application of a multiple therapeutic approach (MARTINS; TOLEDO; SANTOS, 2018).

Thus, this study is justified by the. In view of the above, the guiding question is: what is the importance of motor physiotherapy in critically ill patients in the ICU? The objective theme is to scientifically address the importance of this study's research as motor physiotherapy in adult patients admitted to the ICU. This time, it is justified by its fundamental role in the early recovery

of patients and in the improvement of post-discharge quality of life, being indispensable for reducing the length of hospital stay and for preventing secondary complications.

2 METHODOLOGY

It is an integrative review study; thus allowing the synthesis of works to carry out a broad methodological approach regarding reviews, starting from the inclusion of experimental and non-experimental studies for a complete understanding of the analyzed phenomenon (ARAÚJO *et al*., 2018).

For this type of research, it is necessary to follow six steps: identification of the theme and formulation of the research question; configuration of the criteria for inclusion and exclusion; evaluation of the studies in the sample or literature search, interpretation of the results; presentation of a synthesis of the main findings found in the studies (ARAÚJO *et al*., 2018; MAN; PASSION; MIRANDA, 2017).

Data collection was carried out in the Virtual Health Library (VHL), from April to May 2021, using the Health Sciences Descriptors (DeCS): "Motor Physiotherapy", "Intensive Care Units", "Intensive Care", "Physiotherapy", associated with the Boolean operator AND.

Articles that were available in full format and free of charge, by digital search, published between 2017 and 2023, were included. Those who were not in the Portuguese language and who did not present relevance to the theme proposed in this study were excluded.

For the selection of the articles, titles and abstracts were read and, subsequently, the full text was read to ensure that they dealt with the research theme. The methodological trajectory is shown in Table 1 below.

Table 1 - Methodological trajectory. Maceió, 2021.

Search Strategy	LILACS		BDENF		MEDLINE		SCIELO	
	And	S	And	S	And	S	And	S
"Motor Physiotherapy" AND "Intensive Care Units"	182	3	53	2	5	0	1	3
"Motor Physiotherapy" AND "Intensive Care Units"	4	2	0	0	0	0	0	0
"Intensive Care" AND "Physiotherapy"	308	2	104	1	71	0	2	0
"Intensive Care" AND "Physiotherapy"	18	1	1	1	0	0	7	1
Total	512	01	164	2	76	0	8	4

Source: Authors, 2023. Legend: E- found; S- selected

3 RESULTS AND DISCUSSION

The search in the databases resulted in 7 articles that supported the discussion. Of these, 04 articles came from the SCIELO database, 02 from BDENF and 01 from LILACS. The selected

publications were identified according to: article title, author, year, objective, type of study, and results (Chart 1).

Chart 1 – Characterization of the articles selected for analysis, according to order, title, author, year, objective, and type of study, Brazil, 2018-2023, (n=7).

ARTICLE TITLE	AUTHOR/ YEAR	OBJECTIVE	DESIGN OF STUDY
	Castro, 2018.	To verify in the literature the importance of early mobilization in patients admitted to the intensive care unit.	Integrative literature review
Motor physiotherapy in patients admitted to the intensive care unit	Pinheiro, 2020.	OBJECTIVE: To analyze the outcomes provided by motor physiotherapy in critically ill patients assisted in the intensive care unit.	This is a correlational, cross-sectional study.
Early motor physiotherapy in patients admitted to the intensive care unit	Araújo et al., 2021.	To analyze and describe the importance of early motor physiotherapy in these patients.	Descriptive, exploratory, qualitative research.
The Importance of Early Mobilization in Critically Ill Patients	Arantes et al., 2023.	Interfere with the immobilization time in bed, provoking respiratory, cardiovascular, osteoarticular and even psychological responses to the patient.	This is a descriptive, qualitative study.
The importance of the physical therapist inserted in the multidisciplinary team in the intensive care unit	Lustosa; Moschem, 2019.	To analyze the importance of the Physical Therapist as part of the multidisciplinary team in the Intensive Care Unit (ICU).	Exploratory, descriptive, qualitative research.
Effects of Motor Physical Therapy in Critically Ill Patients	Silva; Cruz, 2019.	To review the literature related to the use of kinesiotherapy in patients admitted to intensive care units.	Qualitative, exploratory and descriptive research.
The importance and efficacy of physical therapy in the early mobilization of patients in the ICU	Alencar; Gonçalves, 2021	To evaluate the importance and efficacy of physiotherapy in early mobilization within the intensive care unit (ICU) and to define how the physiotherapist can act to reduce the loss of functionality and the length of hospital stay.	This is an observational, descriptive, cross-sectional narrative study.

Source: Authors, 2023.

Castro (2018) in his study reports that early motor physiotherapy can be performed according to the severity and functionality of the patient, with passive, active assisted exercises, resisted until ambulation, always taking into account the patient's hemodynamic stability. Thus, motor physiotherapy improves the patient's functionality, generating benefits in various body systems, promoting better hospital recovery and higher quality of life after discharge.

According to Pinheiro (2020), through the systematic study, he says that motor physiotherapy is a safe and viable therapy in critically ill patients, and can minimize the deleterious

effects of prolonged immobilization. Approaches that include electrical stimulation, cyclic ergometers, and physical therapy have shown positive responses in patients receiving intensive care. The level of evidence currently available on the impact of motor physiotherapy on length of stay in the intensive care unit and mortality is still low, and further studies are needed.

In their study, Araújo et al., (2021) prove that physiotherapy has a great effectiveness of its techniques, reinforcing the importance of the hospital physiotherapist, demonstrating that their presence during 24 hours is essential and evidences the need for professional specialization.

Arantes et al., (2023), through their study, reported the importance of qualifying care in intensive care units and training professionals from the perspective of interdisciplinary training.

Lustosa, Moschem, (2019) the physiotherapist is an important part of the multidisciplinary team, obtaining autonomy and using varied resources in the ICU, characterizing a professional with several approaches, bringing positive results. However, for critically ill patients, it is useful to highlight the importance of further qualitative and quantitative studies that describe the perceptions of the multidisciplinary team together with the physiotherapists in the ICU.

Silva, Cruz (2019) demonstrates the use of kinesiotherapy as a therapeutic resource, its use, even early, seems to be an alternative to the prevention and reversal of muscle weakness acquired in the intensive care unit.

Alencar, Gonçalves (2021) reports that it is of paramount importance to ensure that the physiotherapist is included within the multidisciplinary team and that he is present within the ICU, all the support he needs for his recovery and quality during and after hospitalization. Physical therapy played an important role in the clinical rehabilitation of these individuals, providing functional benefits. Early mobilization, used by many physical therapists, should be applied daily in critically ill patients admitted to the intensive care unit who are stable, bedridden, unconscious, on MV, or conscious and able to walk independently (CASTRO, 2018).

It is a safe, feasible and well-tolerated intervention to perform motor physiotherapy in critically ill patients. Adverse reactions are uncommon; The need to discontinue therapy is minimal and, when it occurs, is commonly associated with asynchrony between the patient and the mechanical ventilator. It is noteworthy that the feasibility of early mobilization is necessary and should be evaluated in individuals subject to complications, such as hemodynamic and respiratory instability. This fact must take into account, on the one hand, the risks arising from mobilization and, on the other, the vast deleterious effects caused by bed restriction (PINHEIRO, 2020).

Among the activities performed by motor physiotherapy in the ICU are changes in decubitus and position in bed, passive mobilizations, active-assisted and active free exercises, use

of cycle ergometer, electrostimulation, functional training, sitting, orthostatism, static gait, transfer from bed to chair and ambulation (ALENCAR; GONÇALVES, 2021).

It is also noteworthy that teamwork is consistent with a better evolution of the patient. The multidisciplinary approach aims at comprehensive care and uses prophylactic measures to prevent complications, making it essential for the patient's progress (ARANTES et al., 2023).

4 CONCLUSION

In view of the research carried out, it is concluded that motor physiotherapy in critically ill patients in the intensive care unit can be performed in several ways, with passive methods, assisted active, assisted, resisted, with cycle ergometer, sedation and ambulation, however, the techniques should only be used with the patient's hemodynamic stability.

The study notes important and significant benefits of motor physiotherapy in ICU patients, providing an improvement in the circulatory, musculoskeletal, and respiratory systems and, therefore, promoting shorter hospital stay and a better quality of life after hospital discharge.

Finally, it is concluded that it is essential to perform physiotherapy in the intensive environment, but this fact does not make the studies conclusive and definitive. There will always be room for improvement and innovation to better offer the critically ill patient, always approaching new methods seeking the shortest possible recovery.

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