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Early Mobilization in Critical Patient in the Intensive Therapy Unit the Importance of Early Mobilization in the Intensive Therapy Unit

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Abbreviations: ICUs: Intensive Care Units; DLAs: Daily Life Activities; MV: Mechanical Ventilation

Introduction

According to Ordinance N.551-2005, critical patients are those with imbalance of one or more major physiological systems, with loss of their self-regulation, but potentially reversible. The Intensive Care Unit (ICU) is an inpatient service for critically ill patients requiring permanent attention, with its own staff and specialized technical and professional staff, specific equipment and technologies for diagnosis and treatment [1]. This technological development is associated with the increased use of Mechanical Ventilation (MV) and intensive care, which increase the survival of critically ill patients. However, the long period of hospitalization, end up providing greater inactivity of patients, which may trigger limitations and dysfunctions of their organs and systems [2]. Many critically ill patients have a medical indication of restriction of movement in the initial phase of the disease until the hemodynamic condition stabilizes, remaining at rest or immobile in bed for a long time. However, the reduction or cancellation of the burden imposed on the musculoskeletal system during bed rest, associated with the maintenance of MV, long-term sedative administration, the use of neuromuscular blocking agents and corticosteroids increase the length of stay in the ICU and, consequently, they worsen the patient's prognosis with increased morbidity [3].

The prolonged period of bed immobilization and lack of adequate nutritional support have been the main causes of muscle weakness acquired in the ICU, being affected by other factors such as advanced age, disease severity and the treatment itself, causing loss of muscle mass and consequent impairment of muscle function [3]. Studies indicate an incidence of approximately 30% to 60% in ICU inmates, with a loss of 4% to 5% of peripheral muscle strength per week during the period of immobility. This loss of strength, in addition to increasing the length of stay, as already mentioned, also increases hospital costs and patients' dependence on performing Daily Life Activities (DLAs) and longer recovery time after discharge [4].

Physiotherapy in ICU Intensive Therapy Units

For the care of these patients, Intensive Care Units (ICUs) have a multidisciplinary team to adequately support the patient, the physical therapist being an integral part of this team. It works by minimizing the effects of immobility in the bed, besides treating and preventing respiratory complications. As a preventive and corrective strategy of neuromuscular dysfunctions, physiotherapy uses early mobilization programs, having in functional positioning a basic technique that should be included in every treatment plan [5]. Early mobilization is considered a key element in most physiotherapy care conducts in ICU patients, including a variety of therapeutic exercises (progressive kinesiotherapeutic activities such as passive mobilization, muscle stretching, neuromuscular electrical stimulation, and muscle strength training). , as well as the premature increase of activities such as bedside detestation,

passive or active orthostates, transfers and ambulation). These features aim to prevent muscle weakness and deformity by minimizing the harmful effects of bed rest [6]. The benefits of early mobilization have been recognized in the practice of physical therapy, understanding the term early as a concept that mobilization activities begin immediately after hemodynamic stabilization, not just after MV release or ICU discharge, aiming at the maintenance or increase of muscle strength and physical function of the patient [6].

Effects of Early Mobilization

Studies show that immobility, deconditioning and muscle weakness are problems frequently encountered in critically ill patients, affecting multiple organs and systems, providing significant limitation, loss of innervation, consequently muscle mass, besides emotional disturbances, longer hospitalization and mortality [7,8]. The literature suggests that early ICU mobilization is an essential factor for the recovery of these patients, with active and passive therapeutic exercises, showing benefits especially if started early, composing a variety of approaches [9]. The reduction in MV time in the early mobilization group was one of the proven outcomes in the studies by [10-13]. However, The Studies [7,14-16] found no statistical difference in this outcome. No study found shorter time on MV in the control group. Regarding the independent functional status in patients, this was significantly better in patients who received early mobilization in the hospital than those who underwent conventional physical therapy, as shown by the studies by [8,10,12]. Both studies showed lower post-ICU loss of functionality in the intervention group having recovered 97% of the pre-hospitalization measure, while the CG recovered 72%.

Length of stay is one of the most important outcomes, as it not only benefits patients, but also confirms a better cost benefit for hospital managers. The shorter hospital stays for the group that performed early mobilization was confirmed by the studies by [16,17]. The Study by [11] recorded the best average cost in each hour of hospitalization for the intervention group in relation to the control. Analyzing the sedation time, a worrying factor for the physiotherapist who is trying to wean the patient, where the main aggravating factor is delirium making it difficult to be discharged, aiming at this situation, it was analyzed that, with early exercises, it diminished such aggravating factors. . Thus, confirming the study of [10]. In addition, studies such as [13] state that early mobilization not only improves ventilatory mechanics, MIP is a crucial factor for ventilatory weaning, blood pressure, decreasing time. weaning, thereby reducing the risk factor. Other review studies mention how essential it is to conduct early management for these patients with the benefits for both the patient and the ICU in question. This is affirmed by studies by [18] whose study concluded that early mobilization can anticipate recovery, reducing the incidence of pulmonary complications. time of MV and length of hospital stay and further complements stating that early mobilization is a viable, safe method and does not increase the cost. As well as the studies of Figueiredo & Cruz [18-20] that affirm the importance of the change of position, a simple procedure that has several benefits.

Conclusion

Through this study, early mobilization protocols were found to be effective and safe, with improvements in functionality, reduced sedation, length of stay and MV, and consequently better hospital cost-benefit, therefore, reducing the cost. of hospitalization. It is noteworthy that the literature found a great diversity in the early mobilization protocols and controls, which makes the reliability of the comparisons difficult. It might be necessary to introduce a universal protocol, standardizing such a procedure to unify research results, although it is understood that each unit must identify its barriers and develop a protocol that best fits the hospital. As it is a resource of recent use, further studies are needed, with more uniform protocols and in different conditions and pathologies.

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