

**THE NEED TO
IMPLEMENT A SPECIFIC
PROTOCOL FOR THE
PREVENTION OF
PRESSURE INJURY
IN PATIENTS UNDER
MECHANICAL
VENTILATION
AFFECTED WITH
COVID-19**

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Abstract: Mechanical ventilation is a medical resource used to improve the survival of patients with acute respiratory failure. In the context of COVID-19, this mechanism is extremely important, given the severity of the pulmonary impairment inherent to the disease. Considering the pathophysiological aspects of COVID-19, such as clinical and hemodynamic instability, nutritional deficit, oxygenation deficit, need for multiple health care devices, prone position, among others, these patients are also subject to other damages resulting from the difficulty of handling and the complexity of the disease, such as pressure ulcers, which have been cited in scientific papers as one of the complications resulting from COVID-19. The importance of efficient multidisciplinary work and health education is highlighted, with the aim of seeking measures to prevent this damage, thus improving the quality of care provided, as well as the survival of these patients.

Keywords: Pressure Injury. Mechanical ventilation. COVID.

INTRODUCTION

The injury involved, which brings a new challenge to the health team, which is to look for pressure, is damage caused to the skin and underlying soft tissues, usually over a bony prominence, resulting from pressure or a combination of pressure and shear. It is classified in stages, according to the degree of damage caused to the skin. Its occurrence indicates a breach of skin care and patient safety protocols, evidencing a poor quality of care provided, as it could have been avoided with effective preventive measures.

The characteristics of COVID-19 contribute in a very relevant way to the appearance of this type of injury, especially when the patient needs the prone position to improve lung ventilation, bringing additional complications to coping with the disease. This

way, the objective of the present work is to show the relationship between COVID-19 and the appearance of pressure injuries, thus contributing to the knowledge of the problematic measures that are effective in preventing these injuries in these patients.

THEORETICAL REFERENCE

The emergence of pressure ulcers in patients undergoing mechanical ventilation affected by COVID-19 is widely cited in the literature. It is a consequence of pathophysiological aspects inherent to the disease, such as systemic coagulopathy, nutritional deficit, clinical and hemodynamic instability, oxygenation deficit of peripheral tissues, as well as the need to use multiple medical devices (RAMALHO et al, 2021). Added to these factors are the work overload of the teams in the face of the pandemic, the inadequate structure of the hospital units, the lack of preparation of the health teams, the breaches of protocols for the prevention of pressure injuries and skin care, or their non-existence. For these reasons, the incidence of pressure ulcers is an indicator of poor quality of care provided and a failure in patient safety. Although the pressure injury is not a direct cause of mortality, it significantly increases the patient's morbidity, offering risks of damage that can vary from mild, moderate to severe, demanding greater medical resources, which prolongs the hospitalization time, bringing, therefore, great losses also for the hospital institution (YU et al, 2021). However, when preventive measures are applied properly and in a timely manner, the risk of a pressure ulcer developing decreases considerably. However, for patients affected by COVID-19, this context is relativized, given the severity and instability of the patient resulting from complications intrinsic to the disease, contributing to the emergence of this type of injury, even when these measures are applied. effectively (RAMALHO et al, 2021).

However, the fragility in which these patients are often prevents these preventive measures from being carried out, which further favors the appearance of these injuries.

Added to this, it is not uncommon for patients with COVID-19 to need a prone position to improve lung ventilation. This position leaves the patient with the ventral side of the body under greater pressure for a prolonged period of time, often on medical devices, not tolerating the change in decubitus, greatly contributing to the appearance of pressure injuries in regions such as the cheeks, chin, nose, ear, shoulders, chest, front of hips, knees and front of feet. Despite its benefits in the patient's lung ventilation, this position increases the chances of pressure injury (CONLON et al, 2021). However, the institution of strategies, such as polyurethane foam to support the face and protect health care devices, has good results for the prevention of these injuries. Still, there are data to suggest that the incidence of pressure injury in patients in the prone position remains high (ZHANG et al, 2021).

This reality highlights yet another challenge to be considered in the face of COVID-19. There is a clear need to prepare teams properly. Health education is paramount in this context of crisis, in order to provide safer and quality care to all patients, especially to those patients affected by COVID-19, whose management has been increasingly studied and widely explored.

METHODOLOGICAL ASPECTS

This study is an integrative literature review, which proposes the evaluation of articles that were selected in the month of August 2021. In order to obtain a greater reach of the sample of the present study, the database of the collection of the Virtual Health Library (VHL). To compose this manuscript, articles available in full, published in the last 5 years,

in English, Portuguese and Spanish, which addressed the incidence of pressure ulcers in patients under mechanical ventilation affected with COVID-19, were used. To compose the search, the descriptors "pressure injury", "mechanical ventilation" and "covid" were used, using the "and" connector between the words.

The articles found were previously analyzed from the title and reading of the abstract to assess whether they met the inclusion criteria. After the search, 24 related articles were found. After applying the aforementioned filters, 23 articles remained, among which 03 were unavailable for reading. There were 20 articles left, however, 10 of them were excluded because they were not compatible with the research topic. Because it is a relatively recent problem, with few references in the databases, the works classified as case study and letter to the editor were considered valid for the present work.

RESULTS AND DISCUSSIONS

As a result of the research, applying all the refinement criteria mentioned above to verify the adequacy to the proposed theme, resulted in a final sample of 10 studies that were used for the construction of this review. It appears that the statement that COVID-19 contributes to the onset of pressure ulcers is common in all the literature consulted, especially in patients under mechanical ventilation in the prone position. The number of patients who need this position for the treatment of COVID-19 has been increasing, which has increased the incidence of pressure injuries in the patient's facial and ventral region (JIANG et al, 2020). Pressure injuries in patients with COVID-19 are often different from injuries in other patients in terms of quality and severity. COVID-19 has intrinsic conditions that lead to tissue oxygenation deficit, which causes rapid worsening of the lesion (SCALISE;

TORRESETI; BENEDETTO, 2020). This requires agile and efficient action by the team to better manage the situation, avoiding further damage to these patients.

FINAL CONSIDERATIONS

In the context of the pandemic crisis that we are facing, it is essential that the multidisciplinary team is prepared to adopt efficient strategies for preventing pressure injuries based on evidence, as well as in the

elaboration of action and prevention plans in special conditions, such as the case of the patient in the prone position, very common in patients affected by COVID-19 and under mechanical ventilation (RAMALHO et al, 2021). Health education plays a fundamental role in keeping health professionals up-to-date and engaged in safe practices regarding managing and coping with this disease.

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