

Nursing Performance In Front of Patients with Sepsis in Intensive Care Units: Literature Review

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Abstract— Sepsis is defined as a systemic inflammatory response syndrome associated with an uncontrolled, severe body response resulting from an infection, whether caused by bacteria, viruses, fungi or protozoa. However, when not treated appropriately, it can quickly evolve into shock. septic, resulting in organ failure. The updated nomenclatures to define sepsis are infection, sepsis and septic shock. Objective: To analyze scientific productions on the clinical and epidemiological aspects of sepsis and the nursing role in patient care in intensive care units between 2009 and 2020. Methods: The work methodology consists of a narrative bibliographic review of an exploratory nature. which research was carried out in online library collections, periodicals and newspapers, cross-sectional, descriptive, explanatory, qualitative research. Results: Final considerations: In view of the study, there is a great relevance of the topic for society in terms of clinical and epidemiological aspects in patients in intensive care units, however, no research was found that directly involved nursing actions in relation to care to the patient with sepsis, no guidance was observed regarding signs and symptoms, treatment and the importance of this professional for patients.

Keywords: Emergency Care; Health Care; Sepsis.

Keywords— About five key words in alphabetical order, separated by comma.

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I. INTRODUCTION

Sepsis is defined as a systemic inflammatory response syndrome (SIRS- Systemic Inflammatory Response Syndrome) associated with an uncontrolled, serious body response resulting from an infection, whether caused by bacteria, viruses, fungi or protozoa. In the intensive care unit (ICU), it is extremely important that the nursing team is aware of the clinical signs and symptoms of sepsis, which may vary according to the

degree of evolution, requiring early recognition and treatment. ALMEIDA et al., 2013).

Sepsis is today defined as an aggressively lethal organic dysfunction, resulting from a dysregulated host response to an infection, being a new concept used, based on the guidelines of the Surviving Sepsis Campaign (SSC). This change became known as Sepsis 3 in which the new nomenclatures were updated, with the terms now used: infection, sepsis and septic shock (NUNES et al., 2019).

Therefore, even professionals who are not directly involved in care must be able to recognize symptoms and severity and refer them immediately to begin treatment. This makes the challenge broader, not limited to areas such as intensive care and first aid/emergencies, but encompasses the entire organization (RIBEIRO et al., 2018).

The main organic dysfunctions of sepsis based on the guidelines of the Surviving Sepsis Campaign (SSC) are: hypotension (SBP < 90 mmHg or MAP < 65 mmHg or drop in BP > 40 mmHg); oliguria (≤ 0.5 mL/Kg/h) or increased creatinine (>2mg/dL); PaO₂/FiO₂ ratio < 300 or need for O₂ to maintain SpO₂ > 90%; platelet count < 100,000/mm³ or 50% reduction in the number of platelets in relation to the highest value recorded in the last 3 days; lactate above the reference value; decreased level of consciousness, agitation, delirium; significant increase in bilirubin (>2X the reference value). The implementation of managed clinical protocols is a useful tool in this context, helping institutions standardize care for septic patients, reducing negative outcomes and providing better treatment effectiveness. (LATIN AMERICAN INSTITUTE OF SEPSIS-ILAS, 2016).

Sepsis is considered the leading cause of death in ICUs of all ages. Approximately 47 million cases occur each year, and the mortality rate from its severe form, especially in preferred areas, is greater than 50% due to late diagnosis and lack of intensive care beds (VIANA et al., 2020). The mortality rate in the Southeast region is 51.2%, lower than the other regions (70% in the Center-West, 58.3% in the Northeast, 57.8% in the South and 57.4% in the North), as well as The mortality rate associated with public hospitals is no different from a private system. Although in the SPREAD study the majority of ICUs are public (58%), in the current analysis, the majority of ICUs are private systems (73%) (MACHADO et al., 2017; LOBO et al., 2019).

Timely diagnosis of sepsis is essential for initiating treatment. Under goal guidance, team persistence is key. In view of the above, it is necessary to investigate whether the nursing team has followed the sepsis examination program implemented by the institution and whether the help provided to the patient in the nurse's view is useful for the early detection of sepsis (VIANA et al., 2017).

Sepsis represents one of the biggest causes of hospitalization and mortality in Intensive Care Units (ICU) not only in Brazil, but also in several other countries (e.g., Sub-Saharan Africa, South Pacific islands near Australia, and South, East, and Southeast Asian) due to the problem of sepsis testing, the incentive was created to develop a care plan that guides nursing professionals to identify signs that may indicate the focus of infection and effective treatments, as some hospitals do not have plans for sepsis (ARAÚJO, 2014).

II. MATERIALS AND METHODS

This is a qualitative study, through a narrative review of the literature.

The inclusion criteria were used: articles available in full, which understood the objectives of the study, published between 2009 and 2020, in scientific journals and online libraries, in Portuguese, English and Spanish. The criteria for exclusion were research published in conferences, blogs, forums or that did not meet the objectives or period of the study. To this end, 28 scientific articles relating to the topic of publications between 2009 and 2020 were analyzed in databases such as: National Library of Medicine (PUBMED), Literature, Latin American and Caribbean Health Sciences (LILACS), Library Virtual Health of the Ministry of Health (VHL), Scientific Electronic Library Online (SciELO), Revista Brasileira de Enfermagem (REBEN) and Google Scholar.

The bibliographical research had the problem question: What were the clinical and epidemiological aspects of sepsis in patients in intensive care units? Articles that sought to explain the subject were selected, which were in Portuguese, English and Spanish.

The organization of this review took place between the months of December 2020 and May 2021, thus providing guidance for researchers in relation to the subject addressed, so that they can formulate hypotheses in an attempt to seek resolution of frequent problems related to healthcare assistance. provided in previous studies.

The present study did not need to be submitted for consideration by the Research Ethics Committee (CEP), as it was a study based on a literary review, all research data was analyzed and written in Microsoft Word®.

III. RESULT AND DISCUSSION

The results reveal the specific characteristics of sepsis, and consider aspects related to demography, epidemiology and clinical characteristics (CARVALHO et al., 2010; SANTOS et al., 2016). Regarding the

pathophysiology of sepsis formation in the human body, it is closely related to the immunological status of the host and the invading microorganisms. Due to the lack of knowledge about how the immune system works, many aspects are still unknown (FONSECA, BRAZ & SILVA, 2018).

According to research by the Latin American Sepsis Institute (ILAS), sepsis is considered a systemic response to infectious diseases and manifests itself in different clinical areas of the same pathophysiological field. Due to the need for rapid identification and treatment, it is described as an early challenge (ILAS, 2018; OLIVEIRA et al., 2019).

In the world, a large number of patients admitted to intensive care units (ICU) who die from complications of sepsis, even after many studies on the subject, our morbidity rates have increased, but mortality has decreased (BARROS, MAIA & MONTEIRO, 2016). Several studies have demonstrated that prolonging the average length of stay in the ICU is one of the main risk factors for the development and worsening of the infection (OLIVEIRA, KOVNER & SILVA, 2010; AHMED et al., 2015).

However, in many countries, including Brazil, there are few studies on the correlation between risk factors and cases of worsening sepsis in patients admitted to the ICU, which are very important data for defining public policies and better understanding the pathology and characteristics of patients. Therefore, this study aims to evaluate the risk factors, clinical characteristics and main causes of sepsis in patients admitted to the ICU, and determine the consumption of the main antibiotics in these patients (BARROS, MAIA & MONTEIRO, 2016).

Regarding risk factors, in the study of patients diagnosed with sepsis in an intensive care unit (ICU), invasive procedures such as catheterization, central vascular catheterization and mechanical ventilation were used. In addition to the long hospital stay, these procedures are also significantly associated with the high number of deaths from sepsis in the ICU. Furthermore, the more severe the sepsis, the greater the exposure of invasive surgery, which concluded that patients who developed septic shock during their ICU stay experienced some invasive surgery (BARROS et al., 2016).

Factors contributing to this situation include the aging of the population, the increase in high-risk interventions for different age groups and the development of more antibiotic-resistant pathogens (HALL et al., 2011). According to Reinhart et al. (2013) clarify that population aging, the increasing use of high-risk interventions in all age groups and the development of antibiotic-resistant and more virulent pathogens are the reasons for the high incidence of sepsis in rich countries.

In intensive care services, it is important that nurses know the characteristic signs and symptoms of Systemic Inflammatory Response Syndrome (SIRS), sepsis, severe sepsis and septic shock, in order to improve the quality of services provided to these patients. Through extensive knowledge of sepsis and taking measures that favor care (MONTEIRO et al., 2018).

Regarding the clinical aspects of patients with sepsis, recognizing the clinical manifestations associated with sepsis is essential to correctly classify patients. These are attacks caused by microorganisms. One of the first changes found were vital signs. Nurses are professionals who can identify and evaluate clinical manifestations as early as possible, fully monitor patients to meet all their basic human needs and work with the multidisciplinary team to recommend relevant and necessary procedures to reduce morbidity and mortality in the high incidence of sepsis. (VIANA, MACHADO & SOUZA, 2017; OLIVEIRA et al., 2018).

However, in some cases, the signs and symptoms of sepsis are the main manifestations of the patient's disease. Determining the possible source of infection is important to consider the possible causes of sepsis, which is essential to assess the sensitivity of microorganisms to antibiotics (SIQUEIRA-BATISTA et al., 2011). Furthermore, front-line care professionals must always be alert to specific signs and symptoms related to the initial site of the infection, they must also pay attention to the presence of fever, hypothermia, changes in consciousness and signs such as shortness of breath, tachycardia, hyperglycemia, neurological changes and systemic arterial hypotension (SCHETTINO et al., 2012).

Nursing professionals play an important role in promoting care for patients with sepsis, therefore, they must recognize this change, especially in vital signs at the beginning of sepsis, in order to confirm the prognosis, in addition to understanding possible changes, such as dyspnea (pulmonary dysfunction), oliguria, changes in the level of consciousness and multiple organ failure, which generally occur in septic shock. (KLEINPELL et al., 2015).

Furthermore, it must be emphasized that the nurse as a professional is responsible for the nursing team and must have extensive knowledge about sepsis, in order to make timely decisions and actions to recover the patient, thus guaranteeing the user's health. As the incidence of sepsis in hospitals is low, this may explain the quality of care provided (SIQUEIRA et al., 2013).

The nursing team is responsible for most of the preventive mechanisms, whether in administrative supervision and staff training activities, or in the place where the Hospital Infection Control Commission (CCIH) is formed, in these aspects its performance is fundamental, including in assistance provided because it is in close contact with the patient directly. The hospital reported and implemented different strategies aimed at

preventing and reducing these blood infections. They are based on specific recommendations from official bodies and guidelines, including team training, standardization of procedures, use of invasive procedure checklists, care plans and evaluation of approval indicators (WEINER, 2016; BRASIL, 2017).

The scientific results on the actions of nurses who diagnose patients with sepsis in intensive care units emphasize the importance of nursing in the process of identification and early treatment in facilities, as the basic steps of their actions can interfere with sepsis mortality. Decreasing it has a positive impact on the time/dependence relationship and the success of the patient's recovery (OLIVEIRA, 2016). As a result, the professionals involved need to continually improve, update their knowledge and incorporate new concepts. With the advancement of technology in this field, the nursing team must adapt to this development, requiring nurses to be prepared to deal with this client portfolio and professional environment (VIANNA, 2012).

IV. CONCLUSION

In view of the study, the topic is highly relevant to society in terms of clinical and epidemiological aspects in patients in intensive care units, however, no research was found that directly involved the role of nursing in the care of patients with sepsis, there were no guidelines regarding signs and symptoms, treatment and the importance of this professional for patients. It is regrettable that the nursing professional is only linked to the patient and family as a mediator in the medical team, as they have taken effective measures to identify and care for patients with sepsis in the ICU, and early action can help the patient to have a good prognosis.

However, the importance of this professional for patients was described, in addition, they were indicated in the study to act as intermediaries in intervention procedures within the health team to improve the prognosis and survival of these patients.

Continuing education is very important for health professionals in intensive care units, in order to train them in awareness, action and treatment of sepsis, and to subdivide successful health actions in the face of early diagnosis of the infection and, ultimately instance, determine them. To achieve the main objective, the team included available control measures, such as early detection of the disease.

Therefore, given the better prognosis and survival of patients affected by this pathology, nurses must use the best knowledge based on scientific evidence to provide increasingly qualified assistance, further enrich assistance and act with professional talent for these patients.

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An acknowledgement section may be presented after the conclusion, if desired.

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